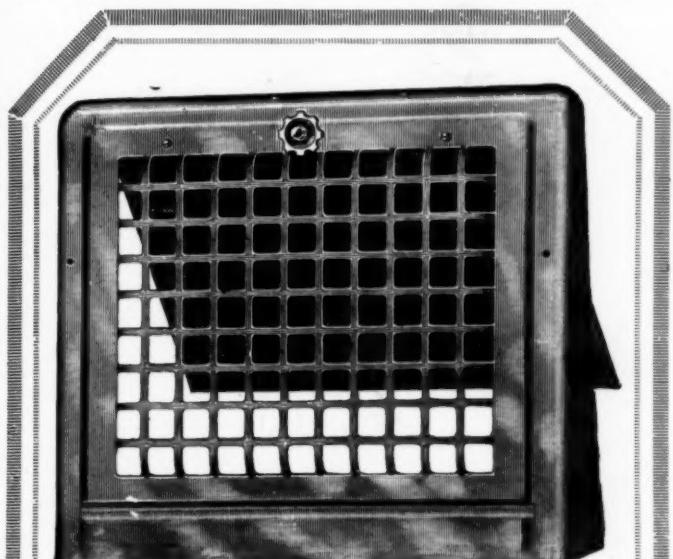


AMERICAN ARTISAN and Hardware Record

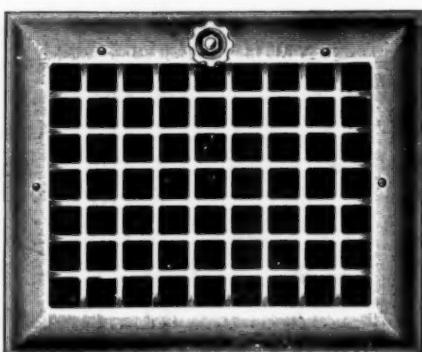
Vol. 80. No. 15.

620 SOUTH MICHIGAN AVENUE, CHICAGO, OCTOBER 9, 1920.

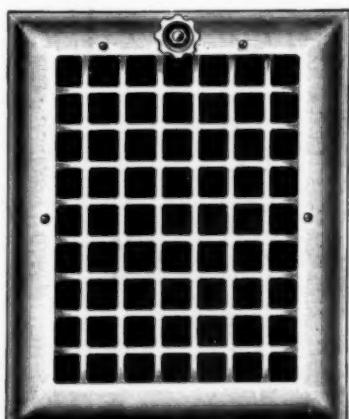
\$2.00 Per Year.



Steel Base Register



Steel Wall Register—Horizontal



Steel Wall Register—Vertical

Registers that match the interiors of modern homes

Not only in a decorative sense but in every other respect. Neatness and harmonious appearance is, however, a distinct feature of our line of up-to-date registers. All sizes and styles of STEARNS' REGISTERS come in black or white japan or electroplated finishes. Being made of steel our registers are sturdily built. They give the full capacity and are guaranteed against breakage.

They are reliable and this is the point that counts most with you and your customers.

STEARNS' *STEEL* **BASE and SIDE WALL REGISTERS**

are being sold more today than ever before. Dealers who have been using them on their warm air heater installations KNOW that they are the utmost in register construction.

Let us tell you about the mechanical features of STEARNS' REGISTERS and how you can use them on your installations with satisfaction and profit.

*Write today for our latest catalog
and price list*

STEARNS' REGISTER CO.

111 FORT STREET
DETROIT, MICHIGAN



QUICK MEAL Blue, Black or White Porcelain Enameled Coal Ranges

are the most up-to-date
ranges made.

They will last a lifetime.

Place your orders now.

Quick Meal Stove Co.

Division of American Stove Co.

825 Chouteau Avenue
St. Louis, Mo.

FRONT RANK

TRADE NAME

REGISTERED

The Steel Furnace that is positively *gas-tight*, because it's *made right*.

Made of tested metal, cold-riveted together. No direct draft to warp and buckle. Stays in order.

If you're not handling the **FRONT RANK** you, your customers and we are all losing money. Write for illustrated literature and prices.

FRONT RANK
TRADE NAME REGISTERED

Steel Furnace

is fool-proof. Gets more heat value out of the fuel used; because its radiating surface is greater, and more of the heat generated in burning the coal is extracted before the smoke and gases are passed on up the flue.

Haynes-Langenberg Mfg. Co.

4058 Forest Park Blvd.

St. Louis, Mo.



*MADY MARK REGISTERED

FOUNDED 1880
BY
DANIEL STERN
Thoroughly Covers
The Hardware, Stove,
Sheet Metal, and Warm
Air Heating and Ventilating
Interests

AMERICAN ARTISAN and Hardware Record

PUBLISHED EVERY SATURDAY BY ESTATE OF DANIEL STERN

TERMS OF SUBSCRIPTION IN THE UNITED STATES AND ITS POSSESSIONS (Invariably in Advance) ONE YEAR POSTAGE PAID \$2.00
FOREIGN COUNTRIES ONE YEAR POSTAGE PAID \$4.00 CANADA ONE YEAR POSTAGE PAID \$3.00

Entered as Second-Class Matter June 25 1885 at the Post Office at Chicago, Illinois under Act of March 3rd 1879

Vol. 80. No. 15.

CHICAGO, OCTOBER 9, 1920.

\$2.00 Per Year.

At a recent meeting of sheet metal contractors, the matter of prices came up, a member of the association suggesting that it would be a good thing if the organization would have a committee figure out a "set" price for various jobs, such as for instance, gutter work, sky light setting, warm air heat piping, etc., all the members of the association to abide by these prices.

At first glance, this would seem to be a very good suggestion, as it would eliminate cut throat competition among the members and at any rate do away with many of the undesirable features of competitive bidding.

There are, however, many valid objections to such a plan, the principal one being that it is against certain federal and state laws which specifically prohibit the fixing of a set price by any number of individuals, firms and corporations, and prescribe heavy penalties for infractions of such laws. It is unnecessary, therefore, to discuss other objections to the "set price" proposition.

A much better plan is to have a committee work out a series of schedules covering the various classes of work in such a manner that the individual sheet metal contractor, with very little effort and time, can make sure that in figuring on a certain job he has included everything that goes into "cost." Not just what he paid out for material and labor, but for "lost time," delivery of material to the place where the job is done or installed, bookkeeping, rent or interest on the investment in his shop building, wear and tear on his tools and machinery, light, power and heat bills, and the hundreds of other items that enter into "overhead cost."

By the intelligent use of such a schedule or chart, the contractor will be able to make a fairly accurate estimate for whatever job in his line that he may wish to try for—and

it is only right to state that in the aggregate almost the same figure will be arrived at by the various contractors interested in the particular proposition.

Information as to how to prepare and utilize such a chart, by the way, is one of the many benefits that come to sheet metal contractors who secure membership in the National Association Sheet Metal Contractors.

* * * * *

Every one is familiar with the old saying that one rotten apple in the barrel will damage the entire contents. The

The Harm of Installation

thing to do is to remove the rotten apple before it spoils the others. The lesson of that old saying holds good for almost any business. It is especially suggestive in the heating and ventilating trade. One bad installation in a neighborhood if not corrected or at least offset by sound educational propaganda may spoil the entire warm air heater trade in that vicinity. The dissatisfied householder—victim of a poor installation—will usually voice his grievances to his friends and acquaintances.

Forthwith, he becomes a prospect for a hot water or steam heating plant. He is lost to the warm air heater trade and the influence of his dissatisfaction may be the cause of many other prospective customers also being lost to the warm air heater trade.

Good installation means more business. Naturally, more business means more profit for the contractor and more employment for the mechanic.

Also, it means better conditions of health and comfort for the householder. Wherefore, every one benefits from good installation.

Loyalty to the trade and pride of craftsmanship, therefore, need to be maintained and developed.

Address all communications and remittances to
AMERICAN ARTISAN
AND
HARDWARE RECORD
620 South Michigan Avenue
Chicago, Illinois

For the good of all, every warm air heater dealer and installer should acquire the habit of advocating perfect installation.

Thus the right spirit will be engendered in the trade and poor installation will eventually disappear.

* * * * *

Recently, a transcontinental railroad system has changed the color of its danger signals from red to yellow.

**Color In
Publicity**

After exhaustive tests, it was found that yellow is more easily perceived than red and less liable to be confused with other colors. The significance of this information for the wholesale and retail advertiser is not difficult to understand. The first intention of advertising is to attract notice. Obviously, to get the people to read your message you must get them to read it.

At the same time that you are making the effort to attract their attention, numerous other advertisers are doing the same thing. It becomes a matter of importance then to find out what devices of type and color are most effective in centering attention upon a particular advertising appeal.

Color ranks first in this respect. Space and contrast come second. Dealers and manufacturers can increase the pulling power of their advertising by judicious use of color whether it be in trade journals, circular letters, window display posters, or any other form of printed salesmanship.

* * * * *

The situation as to prices, so far as new building construction is concerned, is not at all indicative of lowered costs.

**Keep Your
Stock Up**

In fact, quite a number of items have been advanced by manufacturers within the past week or ten days, such as cement, radiators, enameled iron ware, drainage fittings.

The most important factor in building costs—labor—continues fully as high as it has ever been and is likely to stay so until next spring when many of the wage agreements come up for readjustment. In some trades, wages may go up, or at least remain stationary; if labor has its way, they will certainly not be lowered.

On the other hand, we have the absolute necessity for new building construction—both for commercial and residence purposes—so there is little or no reason for any one

who is in the business of selling builders' hardware and kindred lines to fail to keep his stock in reasonably complete condition. He may have to figure his prices a little closer, but to allow his stock to run down, so as not to be able to fill orders on short notice, is nothing short of "poor business." Keep your stock up.

* * * * *

Once in a blue moon genius is found in crippled and pain-racked bodies. Ordinarily, however, the mind works best

Use Ozone

for Ideas

We are just beginning to learn how close is the dependence of ideas upon nerves and digestion. The directors of an English insurance company—men who pay close attention to physical well-being—have found that their employes get more work done in favorable circumstances as regard ventilation.

They are now using ozone for ideas—with brilliant results. By means of an electric converting apparatus in the basement, ozone is supplied to every member of the staff of the insurance company occupying this building, at his or her desk.

This suggests an opportunity for the sheet metal contractors who install ventilating systems to widen the range of their trade.

The use of ozone in ventilation has received careful consideration at the meetings of the American Society of Heating and Ventilating Engineers.

There is no doubt that ozone ventilation will come into more general use. Hence, it is advisable for sheet metal contractors who include ventilation in their business to make a close study of this subject in order to be prepared for lucrative contracts.

* * * * *

The wagging of a dog's tail can be connected by scientists with the swing of the

**Dog's Tail
and Loss
of Income.**

Pleiades through an orbit millions of miles long. It would take too long to explain the relation between the vast stars of the Pleiades and the dog's tail. But the same kind of force is at work in each. In business everything is connected. The smallest and most insignificant things have a bearing upon the biggest transactions and a neglected courtesy however insignificant may be the actual cause of the loss of hundreds of dollars in profits.

Random Notes and Sketches

By Sidney Arnold

I am in receipt of a letter from my friend D. W. Shanks, Sales Representative for the Charles Parker Company, Meriden, Connecticut, in which he tells me that after a very interesting trip with his daughter, Miss Alma Shanks, on which he visited China, Japan and the Philippine Islands, he has returned to his home at Dallas, Texas, after an absence of about four months.

Mr. Shanks is one of the standbys of the hardware trade in the South, being one of the Old Guard Southern Hardware Salesmen, and knows something about traveling, but he says that he never before had an experience similar to what he saw on this trip.

His advice is that persons contemplating a journey to the Orient be sure of having return passage engaged before leaving the United States, as otherwise they may not be able to come back under reasonably pleasant circumstances. He says that with the exception of the captain and half a dozen other passengers, he and his daughter were the only white persons on board a China Mail steamer, which carried more than 1,000 Chinese. The captain, however, did everything to make their trip as pleasant as possible.

* * *

To overcome that gloomy feeling, read this bit of humor from my friend E. E. Behler, Grand Rapids,

MICHIGAN, vice-president Traveling Salesmen's Auxiliary to the Michigan Sheet Metal Contractors' Association:

A woman famous locally for her ducks sold one to Brown, her neighbor.

But it proved particularly tough, and as Brown had paid a big price for the bird he called on the vendor without delay.

"What do you mean by imposing such a duck upon me, one of your oldest neighbors?" he inquired.

"Why, was there anything wrong with it?"

"Wrong! It wasn't good at all!"

"Well, it ought to have been," replied the dame. "It won the first prize at the poultry show for eleven years in succession!"

* * *

There has been a considerable revival of interest in the motor car for which many repairs can be bought in the average five and ten cent store. The sensational price reductions on this car put it within the reach of plain people.

Most of the jokes about it have a thick coating of green mold.

However, here is a new one for which I am indebted to my friend, George Wiltsie of Keith Furnace Company, Des Moines, Iowa:



Possibly the apex of sarcasm or something was reached the other day when Jones took his flivver to a repair shop and asked the man there what was the best thing to do with it.

The repair man looked the car over in silence for several minutes, after which he grasped the horn and tooted it.

"You've a good horn there," he remarked quietly. "Suppose you jack it up and run a new car under it."

* * *

The people in this world who make the right kind of progress in business are those with the same policy for everyone with whom they deal, says my friend, F. C. West, Advertising Manager, Richards-Wilcox Manufacturing Company, Aurora, Illinois.

He illustrates the thought with this dialogue:

Teacher: What is the shape of the world?

Little Boy: I don't know.

Teacher: What kind of cuff buttons does your father wear on Sunday?

Little Boy: Square.

Teacher: What kind does he wear on week days?

Little Boy: Round.

Teacher: Now, what is the shape of the world?

Little Boy: Round on week days and square on Sundays.

* * *

Service is the big thing in business today, affirms my friend Alex Glass, of Whitaker-Glessner Company, Wheeling, West Virginia. But like everything else it can be overdone.

He narrates the story of a proprietor of a big music shop who rang his bell angrily:

"What is all that row out in the shop?" he demanded of the assistant who answered his summons.

"Lady wants a song she heard last week at a concert," replied the flurried assistant, "and she doesn't know the name of it."

"But—."

"Well, we're playing her all the songs we have in stock. That's all!"

* * *

There is no war tax on optimism. Nevertheless, it pays the biggest dividends of any human effort.

To be effective, however, optimism must be a continuous process.

In the vernacular of the subjoined verses, we must "jus' keep on keepin' on."

These lines are worth memorizing. In fact they would make a much better speech at a banquet than a lot of the formal stuff to which we are compelled to listen.

Jus' Keep On Keepin' On.

If the day looks kinder gloomy
An' your chances kinder slim—
If the situation's puzzlin'
An' the prospect's awful grim,
An' perplexities keep pressin'
Till all hope is nearly gone,
Jus' bristle up an' grit your teeth,
An' keep on keepin' on.

Fumin' never wins a fight,
An' frettin' never pays;
There ain't no good in broodin' in
These pessimistic ways.
Smile jus' kinder cheerfully
When hope is nearly gone,
An' bristle up, an' grit your teeth,
An' keep on keepin' on.

Up-to-the-Minute News Siftings

*Items of Interest to Dealers Gleaned from Many Fields.
National and Local Business Plans, Problems, and Practices.*

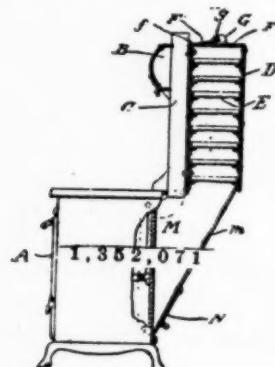
STOVE REPAIR COMPANY CHANGES ITS SHIPPING POINT.

Because of better shipping accommodations, the National Stove Repair Company of Miamisburg, Ohio, will hereafter carry its complete stock of stove and furnace repairs at its Cincinnati house.

The trade is requested to make note of this change and send all orders to the National Stove Repair Company, 325 Sycamore Street, Cincinnati, Ohio.

Drier Attachment for Stoves Has Been Patented.

Under number 1,352,071, United States patent rights have been secured by George M. Leeper, Oakland, Oregon, for a drier attachment for stoves described herewith:



The combination with a stove or range provided above its top with a warming closet, of a drier applied to the stove in rear of its lower portion and the warming closet, comprising a drying chamber in rear of the warming closet and an air chamber below the drying chamber having as its front wall the rear wall

of the stove and as its rear wall an inclined, reflecting plate which serves to support the drying chamber and having side parts which are attached to the sides of the stove, substantially as described.

States the Problem of Prices.

No disease can be cured without diagnosis; no music can be played without learning; no picture can be seen without light.

The greatest possible need of the mass of American citizens today is a competent understanding of the nature of their problems—particularly, the problem of prices.

No doubt it saves us the trouble of thinking if we hold the other fellow guilty of making all our troubles.

But such an attitude does not greatly contribute to the safety of life, the inviolability of liberty or the pursuit of happiness.

Diagnosis leads us inevitably to the conclusion that present high prices and their concomitants of shattered standards, uneasy politics and social unrest have been provoked by stationary or declining production of staples, an increased consumption of luxuries and the substitution of dollars for wealth.

With such a diagnosis, the remedies should be simple if we are courageous enough to take them.

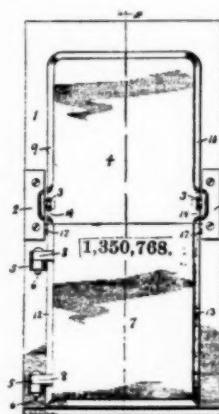
The first one, naturally, would be to produce more staples.

The second is to stop buying things we do not really need or can get along without.

The third, namely, to create wealth instead of dollars, would follow partly automatically from the application of the first two, but would be tremendously accelerated were we to admonish our legislatures and our political administrations to follow our example.

Assigns United States Patent Rights for Stove Door.

Under number 1,350,768, United States patent rights have been granted to William T. Barbour and William L. Mersfelder, Detroit, Michigan, assignors to Detroit Stove Works, Detroit, Michigan, a corporation of Michigan for a stove door described as follows:



In a door construction, the combination of a casing having a pair of lugs and a door hinged thereon to swing on a vertical axis, a pair of brackets attached to the casing and positioned just above said door and having pintles in horizontal alignment parallel to the casing, a second door mounted on said pintles and having its face substantially uniform with the face of the lower door, said casing having a cross bar adapted to be engaged by the lower edge of the face of said upper door when swung down to open position.

Mica from South America.

The imports of mica from South America prior to the war were practically negligible, relatively and as an item of trade exchange, but the war stimulus directed attention to the possibilities of securing regularly a part of the large imports of this special raw material from this new source of supply. The principal countries which are now known to have available deposits of mica of desirable quality and size for import are Brazil and Argentina. In Brazil the deposits, mainly located in the contiguous states of Bahia, Goyaz, Minas Geraes, and Sao Paulo, are extensive and are now fairly accessible to railroads for transport to the ports. The quality is good and compares well with the Indian mica.

Hard luck is good for testing friends.

The Week's Hardware Record

*What Retailers, Jobbers, and Manufacturers Are Doing.
Latest Selling Methods. Experiences of Successful Men.*

It is worth while to keep in mind the fact that AMERICAN ARTISAN AND HARDWARE RECORD is the only publication containing Western hardware and metal prices corrected weekly. You will find these prices on pages 40 to 45 inclusive.

FORMS NEW HARDWARE FIRM.

Thoroughly equipped for business by ten years' experience in hardware, George Hall of Randolph, Wisconsin, has bought out the Ruh Hardware Store in conjunction with Edward Goodwin.

The business is to be conducted under the firm name of Goodwin-Hall Hardware Company.

Special attention is to be paid to profit-making window displays, reinforced by advertisements in the local newspapers and vigorous direct-by-mail campaigns.

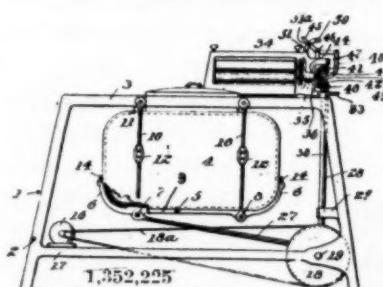
The Goodwin-Hall Hardware Company plans to carry a comprehensive stock of general hardware and automotive accessories.

Awards Contract for Addition to Its Plant.

A contract has been awarded by the Crunden-Martin Manufacturing Company, 760 South Second Street, St. Louis, Missouri, manufacturer of tinware, for an addition to its plant. The new structure is estimated to cost about \$300,000.

Is Granted Patents Rights for Washing Machine.

William H. Sargent, St. Louis, Missouri, assignor to Wayne Manufacturing Company, St. Louis, Missouri, a corporation of Missouri, has been granted United States patent rights, under number 1,352,225, for a washing machine described herewith:



signed, or delivered under the provisions of the Act of Congress approved June 5, 1920, amending the Trading with the Enemy Act, after such money or other property shall have been so paid, conveyed, transferred, assigned, or delivered in accordance with the provisions of the said act of June 5, 1920.

Declares that Trade Paper Advertising Pays.

William H. Rankin, head of the Chicago advertising agency which bears his name, declared in a talk before the Chicago Trade Press Association, that the only reason trade papers are employed by the Rankin agency is because they pay the advertiser, and help to insure the success of other classes of advertising.

He gave instance after instance of advertising success which was due wholly or in part to trade paper advertising.

"In 1908," he said, "we spent \$18,000 in business papers. In 1910 the amount was \$35,000; by 1916 it had increased to \$75,000, and this year we have already o.k.'d orders for space in trade papers to cost \$160,000.

The rate of increase has been much larger than that of our business with other classes of advertising mediums."

Mr. Rankin declared that the main fault is that the trade papers do not advertise themselves enough.

He said that many manufacturers are not sold on trade publications because they are not acquainted with their possibilities and that the story of business paper advertising is told too seldom to agency men.

"The first advertising of the manufacturer is invariably in trade papers," said Mr. Rankin.

"After this advertising has increased sales and profits, the manufacturer may be able to use other classes of mediums—but the trade papers come first.

"Advertising of this character is almost universally successful.

"I have in mind an account now in the hands of our agency, the Peters Machinery Company, which with an expenditure of \$1,500 for space in trade publications has sold \$100,000 worth of machinery. Its advertising has been directed to food products manufacturers, who are interested in its wrapping devices.

"All of the money spent for space has gone into business papers, and without salesmen the company has been able to build up a substantial business through the use of these publications.

"We thoroughly believe in the plan of putting the manufacturers' advertising into the right class of mediums—using business papers to reach the men who buy the goods that the advertiser makes.

"We use trade publications because advertising in them makes national advertising successful.

"Our increased business with them is due not to the fact that we make money directly from such business, but because it helps to make the other advertising more productive.

"We could recommend other classes of mediums and make more money for ourselves, because handling \$160,000 worth of trade paper business will cost more than we shall get of it.

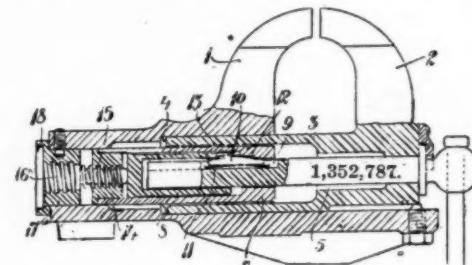
"We could throw this business into the Saturday Evening Post and net \$10,000 a year; but we believe in giving service to the advertiser, and therefore we exert just as much effort on trade papers as on any class of mediums we use.

"We have a \$12,000 a year lay-out man who devotes all of his time to trade papers; we have copy men earning just as much, and writing only for business publications."

Patents Parallel Bench Vise.

Gunnar Elias Cassell, Stockholm, Sweden, assignor to Aktiebolaget Gyro, Stockholm, Sweden, a corporation of Sweden, has procured United States patent rights, under number 1,352,787, for a parallel bench vise described herewith:

A bench vise, comprising in combination a fixed jaw, a jaw freely movable with respect to the fixed jaw, a bolt rotatably mounted in the movable jaw, there being



longitudinal slots in said bolt, a fixed nut, wedge-shaped locking members in said slots, two sleeves movably mounted in the jaws and one of which is movably mounted within the other, said sleeves being engaged by the bolt and having inclined surfaces for engagement with said sleeves, and a screw engaging with said sleeves so as to cause a relative longitudinal movement thereof upon rotation of the sleeves.

Gets Trade-Marks for Paints, Paste, and Varnishes.

Under number 130,045, the Irvin, Jewell and Vinson Company, Dayton, Ohio, has obtained United States Patent Office registration for the trade-mark shown in the accompanying illustration. The

METAL GRIP
130,045

particular description of goods to which it is applied is paste and ready mixed paints, paint oils, and varnishes for metal surfaces. The Company claims use of it since December 1, 1918.

The Irvin, Jewell and Vinson Company has also secured United States Patent Office registration for

METAL GRIP
130,478

a second trade-mark under number 130,478, which is applied to paste and ready mixed paints, paint oils, and varnishes for metal surfaces. The words "Metal Grip" are shown in red. The Company claims use of this trade-mark which is reproduced herewith since December 1, 1918. Application for registration was filed April 1, 1920.

Retailer Is Responsible For His Statements

A retailer is responsible for the statements he makes as to the quality of goods he sells whether he is merely repeating the statement of a manufacturer or not.

It behooves retailers, therefore, to be certain as to the accuracy of descriptions which are given by manufacturers whose integrity might be doubted.

Such a warning was recently issued by H. J. Kenner, secretary of the National Vigilance Committee of the Associated Advertising Clubs, and was given wider circulation among California merchants by one of the Better Business Bureaus (vigilance committees) out there.

In the case in point, a retailer had taken refuge behind the fact that the goods he had advertised had been misrepresented to him.

"The retailer," said the National Vigilance Committee, "is held responsible morally and legally (in most states) for the accuracy of the statements appearing in his advertising whether or not he merely quotes representations made by the manufacturer from whom he obtained the merchandise.

"We had an interesting case in court in Minneapolis when I was Secretary of the Better Business Bureau there in 1915. We arrested a clothier for advertising all wool shirts which were not all wool but were almost entirely cotton, and as a defense he brought into court his bills from the manufacturers, showing plainly that these shirts had been billed to him as all wool, and he merely advertised them in the same way.

"The court held that that was no defense; that he should have known whether they were all wool, and unless he was absolutely sure of it, he should not have advertised them as such.

"Of course if the retailer has knowledge that the manufacturer is wrong, and he goes ahead with a misstatement, that is a fraud clearly, and even if a retailer hasn't knowledge that the manufacturer is wrong and quotes a manufacturer without making some effort to check up, the retailer can be held responsible legally.

"The retailer is looked upon by the buying public as a specialist and expert in the various kinds of merchandise which he sells and the public relies upon him to set out all of the facts truthfully with respect to his merchandise and holds him responsible—and has a right to hold him responsible.

"The retailer is and should be held responsible for all of the statements appearing over his signature in advertising. If he does not know that they are misstatements, he should make it his business to know."

Says AMERICAN ARTISAN Is Essential to Dealers.

To AMERICAN ARTISAN AND HARDWARE RECORD:

Kindly continue sending your valuable paper. Find enclosed renewal of my subscription. No one in the hardware business can afford to be without it.

O. C. OLESON.

Elkhorn, Wisconsin, October 1, 1920.

Narrates the Conversion of a Mail Order Patron.

A farmer came into the office of a western Missouri dealer one day and asked the price on a bicycle.

"\$55."

"But I can buy one from Meres, Doetruck and Company for \$36."

"Sure you can, I know that; but you want the bicycle for your own use, don't you?"

"Uh-huh."

"Well, then, take my advice. That \$36 machine will be all right for a boy, but for a man as heavy as you are, I'm afraid it will be pretty light. If you must order for Meres, Doetruck and Company, I'd advise you to get the best wheel they advertise."

"But if I do that," said the farmer, "I'd have to pay almost as much as you want for yours. I need a wheel all right, but \$36 is about all I want to put into it, and if I had the money handy I'd send for one."

"How much you shy?"

"About \$10."

"All right, I'll lend you the ten," said the dealer. "Go buy your draft and come back here and I'll address your envelope and even furnish the stamp. You can hand me the ten the next time you're in town."

As the farmer went out with the money a traveling man who was there blew up and said:

"Well, you blankety-blanked idiot! Of all the darn fool things I ever saw a dealer do that takes the cake—loaning a farmer the money to buy something from a catalogue house. That beats me!"

"Oh, forget it!" said the dealer. "I know what I'm doing."

The draft was sent and a few days later the farmer dropped into the store and repaid the loan. The dealer asked him if his wheel had come yet.

"Yes," replied the farmer. "It's down to the depot now, but I've a good notion to send it back and ask for my money."

"Why, what's the matter with it?"

"Well, from the looks of it I'm afraid it's too light for a man as big as I am to ride. Wish now I'd taken your advice and ordered a better one. Guess I'll send that back and get my money, and when it comes buy one of yours."

"You want that wheel right away, don't you," asked the dealer. "You could use it today couldn't you?"

"Yes, if I could afford to pay for it today."

"Why, see here Bill, you know you don't have to pay me in advance. If you want that wheel right away, tak it along with you. Send the other back, and when you get your money, come in and pay me. Then pay me the balance when you can conveniently."

The result? A farmer effectually cured of mail order buying, who, since the bicycle deal, has been a consistent and regular customer of that dealer. Good policy? Not so much that as a good common sense way of treating a very common occurrence in the retail trade.

Sometimes a man will do a mean thing because he has confidence in his ability to square himself by offering an apology.

Good Ideas for Window Display

*Practical Lessons from Exhibits in AMERICAN ARTISAN AND HARDWARE RECORD Window Display Competition.
How to Get More Passers-By to Come into Your Store.*

WINDOW DISPLAY OF OVENS IS ARTISTIC AND RESULTFUL.

For quick service in the preparation of light meals, an auxiliary oven is a useful addition to the kitchen equipment.

It is not difficult to establish such a device as a regular part of one's stock and to build up a steady demand for it.

Not only is such an auxiliary oven desirable for quick service in the preparation of light meals, but it

is a window display of Androck ovens designed and arranged for the Erie Hardware Company, Erie, Pennsylvania, by H. W. Goeller, and it received honorable mention in AMERICAN ARTISAN AND HARDWARE RECORD Window Display Competition.

The background of this window display was made of compo boards painted white. The inset panels were colored red. White cheese cloth was used for the draperies at the top of the display, and red velvet for those at the bottom.

It will be noted from the accompanying photograph



Window Exhibit of Ovens, Arranged by H. W. Goeller for the Erie Hardware Company, Erie, Pennsylvania, Awarded Honorable Mention in AMERICAN ARTISAN AND HARDWARE RECORD Window Display Competition.

is also a welcome addition to the oven capacity of the average stove when more than the usual amount of foods are to be prepared at one time.

Strange as it may seem, there is a big percentage of housewives who are not acquainted with the advantages of this type of oven.

More sales can be made by the simple process of acquainting them with the convenience and efficiency of ovens of this kind.

It goes without saying, that foremost among the methods of familiarizing the housewives with such ovens is the window display.

An excellent example of the use of this method is shown in the accompanying illustration.

that sharp contrasts were brought about in this window display by the preponderance of white in the arrangement.

The persuasive power of the exhibit was intensified by the announcement on a big placard of special demonstration being carried on within the store.

The Erie Hardware Company sold an unusually large quantity of these ovens during the week that the display was in the window.

The darkest hour in any man's career is that wherein he first fancies there is an easier way of gaining a dollar than by squarely earning it.—Horace Greeley.

Window Display Competition Creates New Values.

Gold ores locked in the earth are worthless.

You can not pay grocery bills with them nor buy gasolene nor shoes.

Labor must be applied to the ores to bring them to the surface and to extract the pure gold before the precious metal can have any value in the commerce of the world.

It is the same with the possibilities of profit which are locked in the window space of a hardware store.

These possibilities must be developed into actualities by thought and study and effort.

Just as there is a chemistry of ores by which pure metal is made available, so there is a science of merchandising display by which the retailers' profits can be developed and increased.

Learning how to work it to the greatest advantage is simply and effectively brought about through the medium of AMERICAN ARTISAN AND HARDWARE RECORD Window Display Competition which is now under way. From week to week window displays which were submitted in the past competition are published in these pages with appropriate and helpful comment.

By studying these displays and by paying careful attention to the instruction given from time to time in connection therewith, the business man or employee of average intelligence can readily acquire the necessary knowledge and skill to design and put into effect resultful window displays.

Most of us are so constituted that we need some sort of stimulus to do our best.

Therefore, the window display competition now being conducted by AMERICAN ARTISAN AND HARDWARE RECORD is your opportunity for developing the gold mine of your window space.

Resolve to take part in this contest.

Begin at once to design and execute forceful window advertising. Have a photograph made of your best display and submit it with accurate description for entry in this competition.

Read the terms and conditions which are herewith given:

Award of Prizes

The prizes will be awarded as follows:

First prize, \$50.00 in cash, for the best photograph and description received of window display of hardware or kindred lines;

Second prize, \$25.00 in cash, for the photograph and description second in merit;

Third prize, \$15.00 in cash, for the photograph and description third in order of excellence;

Fourth prize, \$10.00 in cash, for the photograph and description fourth in degree of worthiness.

Conditions of Competition.

The conditions of the competition are as follows:

The photograph must be accompanied by descriptions of how the window displays were arranged and the materials used. The description is important and hence should be adequate. These photographs and descriptions may be sent by mail or express, charges prepaid, and must reach this office not later than February 15, 1921. Address all photographs and descriptions to AMERICAN ARTISAN AND HARDWARE RECORD

Window Display Competition, 620 South Michigan Avenue, Chicago, Illinois.

Each photograph and description must be signed by a fictitious name or device and the same name or device must be put in a sealed envelope containing the real name and address of the contestant. This sealed envelope is to be enclosed with the photograph. Contestants are permitted to enter as many photographs of displays as they please.

A Competition Committee of three will be appointed. One of them will be an expert window dresser and one an experienced hardware man. This Committee will pass upon the merits of all photographs and descriptions received, without knowing the names or addresses of the senders, and will decide the winners of the Competition.

AMERICAN ARTISAN AND HARDWARE RECORD reserves the right to publish all photographs and descriptions submitted.

*Statement of the Ownership, Management, Circulation,
etc., Required by the Act of Congress of August 24, 1912.
Of American Artisan and Hardware Record published
weekly at Chicago, Illinois, for October 1, 1920.*

State of Illinois, County of Cook—ss.

Before me, a notary public in and for the State and county aforesaid, personally appeared Etta Cohn, who, having been duly sworn according to law, deposes and says that she is the business manager of the American Artisan and Hardware Record and that the following is, to the best of her knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editors, and business managers are:

Publisher, Estate of Daniel Stern, Chicago, 620 South Michigan Avenue.

Editor, Richard Moreno, Chicago, 620 South Michigan Avenue.

Editor, A. George Pedersen, Chicago, 620 South Michigan Avenue.

Business Manager, Etta Cohn, Chicago, 620 South Michigan Avenue.

2. That the owners are: (Give names and addresses of individual owners, or if a corporation, give its name and the names and addresses of stockholders owning or holding 1 per cent or more of the total amount of stock.)

Sole owner—Estate of Daniel Stern, Leo Koretz and S. Westerfeld, Trustees, 620 South Michigan Avenue, Chicago.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: There are neither bonds, mortgages nor other outstanding securities against AMERICAN ARTISAN AND HARDWARE RECORD.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the six months preceding the date shown above is? (This information is required from daily publications only.)

ETTA COHN,

(Signature of business manager.)

Sworn to and subscribed before me this 1st day of October, 1920..

[Seal]. Josephine L. Schroeder.
(My commission expires May 20, 1924.)

Snippy Letters Make Enemies for Any Business.

Big business institutions employ men to go out into the field and persuade retailers to become the patrons of the firm. Men engaged in this work are paid good salaries and their expenses, and they "deliver the goods." Then, sometimes, it looks as though these same firms employ men in the office to write letters that drive the same patrons away faster than they can be landed by the commercial travelers.

The brisk, brusk, brief, matter-of-fact letter, typical of the American business man, has caused much comment among foreign trade. In the mad rush for business, Americans eliminate all the necessary words from their letters, and this brevity has become quite acceptable to the recipients, but often the correspondents seem to make an effort to impress the customer with their own importance. This occurs not only in correspondence, but in telephone conversations as well.

Salesmen constantly complain of the ill-treatment accorded their customers by "the house." Some of these complaints, doubtless, are without foundation, but many of them are just. Often unreasonable requests are made by the retail trade, but because the request is made is no reason for the writing of an insulting letter. Not long ago a salesman, complaining of the treatment accorded some one of his customers by the house, said that he had been working on this particular customer two years in an effort to persuade him to handle the factory's product. Finally he landed an order.

It was not a very large order, but the ice was broken. When the goods reached the customer, complaint was at once made by the customer of a shortage. His letter to the firm was gentlemanly, calling attention to the shortage, and asking that he be given credit or that the items missing be forwarded at once. It seems that on that particular day several such claims were received, and the young man who had charge of the correspondence proceeded to dictate a long letter on the accuracy of the shipping department, and on the unreasonableness of some retailers; and by reading between the lines it was not difficult to see that he was accusing the dealer of making a false claim.

This caused the retailer to repack the entire shipment and forward it to the house. Several letters passed regarding the matter, but the merchant refused to have anything further to do with the firm. The salesman, who was in the territory, was directed to go and see the merchant, and make an effort to patch up the differences. He did his best, but the merchant declined to be pacified, and the business was lost.

Another salesman told of the loss of a customer of long standing by a bright office man who assumed the haughty air in a telephone conversation. The customer had given an order for quite a large shipment, the prices quoted being for delivery at the freight depot in his city. Soon after the order was received the customer called the house by telephone, and requested that the shipment be by express instead of by freight, saying that he had just learned that he was entirely out of one or two of the items included in the order. Then the office man swelled up and said:

"You must take us for a United States mint. The prices quoted you were for delivery by freight," shouted the office man. "If you want the delivery to be by express, you will certainly be expected to bear the expense."

"That's all right," replied the retailer. "I am not quarrelling about the expense, but I must have the goods."

After the retailer left the phone, and got to thinking over what the office man had said to him, and the manner in which he had said it, he went to the expense of another long distance telephone call to tell the factory to cancel the order.

The salesman explained that the customer was saved at an expense amounting to much more than the extra cost of express over freight on his shipment. It became necessary to send the salesman out to see him, and, as often happens, the salesman went to the retailer without the least idea of why the order had been cancelled. He wasn't in ignorance very long, however. The retailer told him all about it, and probably added a few frills.

"If every man in the house worked as faithfully to hold a customer as the men do on the road to get new ones and hold the old ones, the expense of selling goods could be greatly reduced," said an old salesman the other day. "A man who would talk to a retailer's face as he does over the phone, or as he writes, would be expecting a poke in the jaw. And that is just what happened in an office in which I was employed in Kansas City not so many years ago. We had a dealer down in Texas who was irritating, to say the least. He always asked for more favors than could possibly be granted. I believe he asked for many he did not expect to get, for when he was refused he never came back with any argument as to why we had not granted the request. One day a letter was received from him making request for a favor that simply put the man who had charge of the correspondence on his ear. He may have been up late the night before, or he may have gotten out on the wrong side of the bed that morning. Anyway, he wrote the Texan a scorch. The letter was insulting in almost every line. The writer not only belittled the dealer for asking the favor, but reviewed his requests for six months or more. It sure was some letter. I read the letter and advised against sending it, but the writer was a member of the firm and I was only one of the hired men, so the letter went into the mails. Four or five days after that a tall, raw-boned stranger entered the office of the company, and asked for the man who had written the letter. Walking over to the desk, the stranger said:

"I am Smith from Texas. Get up out of that chair. I am going to beat 59 varieties of stuffing out of you. No man can say things to me in a letter that I would not stand for in a face-to-face conversation, and I have come all the way from Texas to resent your insults."

"And then he proceeded to do just what he said he had come for. When he got through the office looked as though a cyclone had struck it."

The abbreviated letter may be all right, but a little tact now and then will go a long way toward saving customers after they have been landed by the sales-

men. Curt letters may prove a degree of satisfaction to the writers, but they will not hold the patronage. The correspondents should display as much, and even more, tact in handling a customer than is shown by the salesmen. They have more time to think over what they are going to say in their letter, and the letter may not be read as it was intended.

When a Customer Looks Into a Show Case.

When a customer looks into a show case, or at a counter display, it is time for the wideawake salesman to act quickly, says the *Kodak Salesman*.

He should not wait for the customer to designate any article.

He should follow the former's eye and without request remove from the case or rack not merely the article in which he appears to be interested but several articles of the same nature.

Permit the prospect not only to see them at closer range but urge him to handle and feel them if the sense of touch is likely to sharpen desire, as very frequently is the case.

"Looking into the show case" is a very human disposition, particularly when waiting for change to be made. It signifies at least smouldering or suddenly-awakened interest in something which the customer has not purchased or did not come to purchase, the importance of quick and spontaneous action on the part of salesmen is self-evident.

It often leads to wholly unexpected sales.

Why Advertise When You Are Behind in Deliveries?

This seems to be a very natural question, and the answer involves the discussion of a policy, declares *Graphite*, published by the Dixon Crucible Company.

If we were building a business for today our policy would vary from day to day with the temporary changes with which every business has to contend.

But we are building for time to come. Without the proper foundation it would undergo violent changes dependent upon temporary national, local or even imaginary conditions.

If we should permit ourselves to become inflated with self-confidence when business conditions are favorable, restricting our selling and advertising activities, and go down in the dumps when conditions are not so favorable, this business would not amount to any more than the existing conditions would make of it.

We say right now, without reservations, that we hope, regardless of how aggressive and efficient our manufacturing department may be, that it will never be able to catch up with our selling organization.

If our efforts should be halted in the middle of the road in times of liberal buying to wait on the manufacturing department, there might come a time when the manufacturing department would have to suspend operations while waiting on the sales organization.

With such a policy we would be running around in a circle, disorganizing one day and reorganizing the next. In this business advertising is a sales policy—

the same as our policy maintaining a sales organization—and we might as well consider the elimination of one as the other.

Neither will be eliminated, as this business needs both if we are building for the future.

We hope the idea will never creep into this organization, that there will be any letup in aggressive methods, which might suggest that when business is good there is not occasion for work and when business is poor it is too hard to get.

We constantly have in mind that the American people are much more concerned in their own affairs than in ours, and if we should restrict our selling and advertising activities they will begin to forget us—and this would be our fault.

We are going ahead with the idea of increasing the present momentum in favor of our goods, and if conditions should turn face about, our dealers and ourselves will be in a better position to hurdle obstacles than if we originated a policy for each condition as it arose.

Avoid Long Term Credits.

If business men were more careful about long term credits and unreliable accounts, more of them would be riding around in their own gas wagon and spending week ends at the summer resorts, instead of walking home to save carfare and sitting up nights, wondering if the sheriff will be sitting on the doorstep when they get down in the morning.

Oliver Norton Passes Away.

A long life of usefulness came to an end with the passing away of Oliver Wilcox Norton, at his residence, 4823 Lake Park Avenue, Chicago, Illinois, Friday, October 1, 1920.

Mr. Norton was born in Alleghany county, New York, December 17, 1839. He served throughout the civil war, emerging as a commanding officer.

He was one of the founders of the firm of Norton & Francher of Toledo, Ohio, one of the first manufacturing concerns to make tin cans and sheet metal goods in the country.

In 1870 the industry was moved to Maywood, Illinois, and in 1872 the name was changed to Norton Brothers.

He was known as a lover and critic of good music and spent thousands of dollars in advancing the art in Chicago.

Because of his advanced age a conservator of his estate, valued at \$1,200,000, was appointed this year.

He is survived by three sons, Ralph H. of Chicago, Elliott S. of New York, and Strong Vincent Norton of Pontiac, Michigan.

Trade Opportunities in Foreign Lands.

The Bureau of Foreign and Domestic Commerce, through its Special Agents, Consular Officers and Commercial Attachés, is receiving information of opportunities to sell hardware and kindred lines in several foreign countries. Names and locations will be

supplied on request to the Bureau in Washington or its District Offices. Such requests should be made on separate sheets for each opportunity, stating the number as given herewith:

33800—The commercial representative of a firm in India who is at present in the United States desires to secure an agency from manufacturers for the sale of aluminum, nickel silver sheets, brass sheets, copper sheets, metals and enamel ware. Reference.

33810—A trading company in Australia desires to get into communication with firms with a view to securing representation for the sale of American goods in that country. References.

33812—An importing company in India desires to purchase or secure agencies for sale of galvanized corrugated iron of 24 to 30 gauge, wire nails, iron nails, bar iron and steel, galvanized nails and washers, and enameled ware. Quotations should be given c. i. f. Indian port. References.

33814—The representative of a firm in Dominican Republic is shortly to visit the United States and wishes to purchase and secure an agency for hardware, automotive equipment machinery, building materials, etc. Reference.

33825—An importing firm in Spain wishes an agency from manufacturers for the sale of tools, such as files, saws, grinding stones, twist drills, and stock and dies. Quotations should be given c. i. f. Spanish port. Terms to be arranged through agents in New York. Correspondence may be in English. References.

Coming Conventions.

American Hardware Manufacturers' Association, Marlborough-Blenheim Hotel, Atlantic City, New Jersey, October 20, 21, and 22, 1920. F. D. Mitchell, Secretary-Treasurer, 4106 Woolworth Building, New York City.

National Hardware Association, Marlborough-Blenheim Hotel, Atlantic City, New Jersey, October 20, 21, and 22, 1920. T. James Fernley, Secretary, Philadelphia, Pennsylvania.

American Washing Machine Manufacturers' Association, Hotel Sherman, Chicago, Illinois, November 10 and 11, 1920. E. B. Seitz, Secretary, 10 South LaSalle Street, Chicago, Illinois.

Automotive Equipment Association, Coliseum, Chicago, Illinois, November 15, 16, 17, 18 and 19, 1920. William M. Webster, Commissioner, 1813-1818 City Hall Square Building, Chicago, Illinois.

Automobile Accessories Branch of the National Hardware Association, Coliseum, St. Louis, Missouri, November 30, December 1, 2, and 3, 1920, headquarters, Hotel Statler. T. James Fernley, Secretary-Treasurer, 505 Arch Street, Philadelphia, Pennsylvania.

Southern Association of Stove Manufacturers, Evansville, Indiana, December 6 and 7, 1920. W. H. Cloud, Secretary, 216 Glendora Avenue, Louisville, Kentucky.

Texas Hardware and Implement Association, Adolphus Hotel, Dallas, Texas, January 18, 19, and 20, 1921. A. M. Cox, Secretary, 1808 Main street, Dallas, Texas.

Western Retail Implement, Vehicle and Hardware Association, Kansas City, January 18, 19 and 20, 1921. H. J. Hodge, Secretary, Abilene, Kansas.

Pacific Northwest Hardware and Implement Association, Seattle, Washington, January 18, 19, 20, and 21, 1921. E. E. Lucas, secretary, Hutton Building, Spokane, Washington.

Missouri Retail Hardware Association, Planters Hotel, St. Louis, Missouri, January 25, 26, and 27, 1921. F. X. Becherer, secretary, 5106 North Broadway, St. Louis, Missouri.

Mountain States Hardware and Implement Association, Brown Palace Hotel, Denver, Colorado, January 25, 26, 27, 1921. W. W. McAllister, Secretary-Treasurer, Boulder, Colorado.

Indiana Retail Hardware Association, January 25, 26, 27 and 28, 1921. (Place to be announced later.) G. F. Sheely, Secretary, Argos, Indiana.

Oregon Retail Hardware and Implement Dealers' Association, Portland, Oregon, January 25, 26, 27, and 28, 1921. E. E. Lucas, secretary, Hutton Building, Spokane, Washington.

Kentucky Hardware and Implement Dealers' Association, Louisville, Kentucky, January 25, 26, 27 and 28, 1921. J. M. Stone, Secretary, Sturgis, Kentucky.

West Virginia Retail Hardware Dealers' Association, Huntington, West Virginia, February 1, 2, 3, 1921. James B. Carson, Secretary-Treasurer, Dayton, Ohio.

Nebraska Retail Hardware Association, Hotel Rome, Omaha, Nebraska, February 1, 2, 3 and 4, 1921. George H. Dietz, Secretary, Lincoln, Nebraska.

Wisconsin Retail Hardware Association, Milwaukee, Wisconsin, February 2, 3 and 4, 1921. P. J. Jacobs, Secretary, Stevens Point, Wisconsin.

Oklahoma Hardware and Implement Association, Oklahoma City, February 8, 9, and 10, 1921. W. B. Porch, secretary-treasurer, Oklahoma City, Oklahoma.

Michigan Retail Hardware Association, Grand Rapids, Michigan, February 8, 9, 10, 11, 1921. Arthur J. Scott, Secretary, Marine City, Michigan.

The Michigan Retail Hardware Association, Grand Rapids, Michigan, February 8, 9, 10, and 11, 1921. Arthur J. Scott, Secretary, Marine City, Michigan.

Iowa Retail Hardware Association, Des Moines, Iowa, February 8, 9, 10, and 11, 1921. A. R. Sale, secretary-treasurer, Mason City, Iowa.

North Dakota Retail Hardware Association, Fargo, North Dakota, February 8, 9, 10, and 11, 1921. C. N. Barnes, Secretary, Grand Forks, North Dakota.

Pennsylvania and Atlantic Seaboard Hardware Association, Incorporated, Convention and Exhibition, Philadelphia Commercial Museum, Philadelphia, February 8, 9, 10, 11, 1921. Sharon E. Jones, Secretary, 1314 Fulton Building, Pittsburgh.

Illinois Retail Hardware Association, Hotel Sherman, Chicago, Illinois, February 15, 16 and 17, 1921. Leon D Nish, Secretary, Elgin, Illinois.

California Retail Hardware and Implement Association, San Francisco, California, February 15, 16, and 17, 1921. Leroy Smith, secretary, 112 Market street, San Francisco, California.

Minnesota Retail Hardware Association, St. Paul Auditorium, St. Paul, Minnesota, February 15, 16, 17, 18, 1921. H. O. Roberts, Secretary, Metropolitan Life Building, Minneapolis, Minnesota.

Ohio Hardware Association, Columbus, Ohio, February 15, 16, 17 and 18, 1921. Hotel Headquarters, Deshler Hotel. Exhibition in Memorial Hall. James B. Carson, Secretary, Dayton, Ohio.

New England Hardware Dealers' Association, Mechanics' Building, Boston, Massachusetts, February 21, 22, and 23, 1921. George A. Fiel, secretary, 10 High street, Boston, Massachusetts.

Michigan Sheet Metal Contractors' Association, Hotel Durant, Flint, Michigan, February 22, 23, and 24, 1921. F. E. Ederle, Secretary, 1121 Franklin Street, S. E., Grand Rapids, Michigan.

New York State Retail Hardware Association, Rochester, New York, February 22, 23, 24, and 25, 1921. John B. Foley, Secretary, 607 City Bank Building, Syracuse, New York.

South Dakota Retail Hardware Association, Sioux Falls, South Dakota, February 22, 23, 24, 25, 1921. H. O. Roberts, Secretary, Metropolitan Life Building, Minneapolis, Minnesota.

Panhandle Hardware and Implement Association, Amarillo, Texas, May 8, 9, and 10, 1921. Troy Thompson, Secretary, Treasurer, Dalhart, Texas.

Hardware Association of the Carolinas, Charlotte, North Carolina, May 10, 11, 12, and 13, 1921. T. W. Dixon, secretary-treasurer, Charlotte, North Carolina.

Southeastern Retail Hardware and Implement Association (composed of Alabama, Florida, Georgia and Tennessee), Atlanta, Georgia, May 17, 18, 19 and 20, 1921. Walter Harlan, Secretary, 701 Grand Theater Building, Atlanta, Georgia.

Retail Hardware Doings.

Illinois.

Van Brund and Anders have been succeeded in their hardware business at Sidney by Logan and Anders.

Indiana.

A. Wasmuth and Sons, hardware, implements, etc., have decreased their common stock \$20,000 and increased their preferred stock \$50,000.

Julius A. Bennett has opened a hardware and furniture business at Mishawaka.

Montana.

Ben Davis has sold his hardware store to W. H. Peck Company at Ekalaka.

Nebraska.

Fred C. Hall has purchased the E. E. Andrews hardware store at Havelock.

Thomas Hansen has sold his hardware business to Lee Parker at Rosalie.

R. C. Buckley has sold his hardware store to Mitchell and Son at York.

North Dakota.

J. R. Burgeson and T. E. Thoen have purchased the hardware business of John L. Hagen at Milmor.

Mike Sersen has bought a hardware store at Reynolds.

Carl Huber and Joseph Siheksa have purchased the Berg Hardware business at Rollette.

The Wahpeton Hardware Company have erected a new building for their business at Wahpeton.

South Dakota.

Jordan Hardware Company have sold out to Edward Opocensky and Robert P. Jones at Burke.

Wisconsin.

Robert Marty sold his interest in the Tollefson and Marty hardware business to Wilbert J. Hefty at Lew Glarus. The firm will continue under the new name of Tollefson and Hefty.

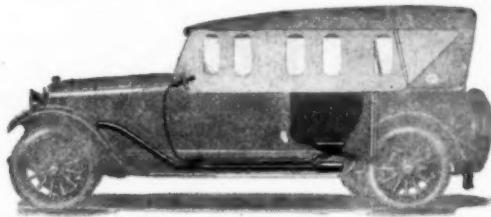
Selling Automotive Accessories

How Hardware Dealers Can Increase Their Profits by Handling Standardized Automotive Accessories. Facts and Suggestions to Aid Them in Giving Better Service.

AUTOMOBILE HEATER IS A PROFITABLE ACCESSORY.

Much more winter driving would be done if something better than the old-fashioned charcoal foot warmer were brought to the attention of motorists.

What appears to be a promising departure from routine in this connection is the Temme Exhaust



Phantom View of Car Showing How to Install Temme Exhaust Heater.

Heater, shown in the accompanying illustration. A glance at the phantom view will show the source of the heat used in this accessory.

It is manufactured by the Temme Spring Corporation, 2810 South Michigan Boulevard, Chicago, Illinois.

It is described as having three radiator coils with 98 fin-like leaves affording a heating capacity of 384 square inches, sufficient according to the manufacturers' guarantee, comfortably to heat the largest gasoline car built up to the present time.

The heat from the Temme Exhaust Heater is declared to be clean and odorless. The device has a control operated directly from the instrument board, a floor plate flush fitting with the car floor, a clean-cut door, and an adjustable valve provided with a positive locking device which serves as a complete check-off when no heat is required.

Dealers in automotive accessories who are on the alert for articles which increase the service which they are able to render their customers, would do well to write Temme Spring Corporation, 2810 South Michigan Boulevard, Chicago, Illinois, for terms and particulars.

Keep Your Stock Up to Date.

Keep on the lookout for new accessories. Add each one to your stock as you feel it will meet the requirements of the motorists in your territory and then sell it.

Select only those which actually add to the efficiency of car operation, or to its utility.

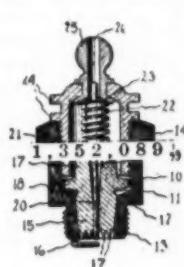
In other words, be able to prove to the owner that every accessory which you handle will pay for itself in a short time, either through its actual saving in cost of operation, or through the increased comfort and safety afforded the car or its occupants.

Organize Company to Produce Automotive Accessories.

Stratford B. Allen of Cambridge, Massachusetts, H. Ray Rohrman and Heath Onthank, both of Arlington, Massachusetts, have organized and incorporated the Keramite Products Company, Boston, Massachusetts, to make electric supplies and automotive accessories. The capital stock is placed at \$50,000.

Assigns United States Patent Rights for Spark Plug.

Under number 1,352,089, United States patent rights have been procured by Albert Schmidt, Flint, Michigan, assignor to Champion Ignition Company, Flint, Michigan, a corporation of Michigan, for a spark plug described as follows:



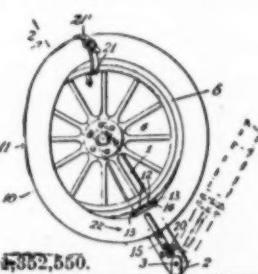
A spark plug comprising a shell having a center bore, a central electrode, an insulator surrounding said electrode and fitting within the inner bore of said shell, and a spring surrounding said electrode and acting upon said insulator for retaining said insulator in place within said shell.

Auto Safety Lock Company Is Incorporated.

With a capital stock of \$25,000, the Auto Safety Lock Company has been incorporated at Bellaire, Ohio. Incorporators are W. B. Starkey, C. M. Wyrck, W. A. Stellers, W. G. McClain, and W. Ludwig.

Secures Patent for Tire Tool.

Under number 1,352,550, United States patent rights have been granted to Clifton E. Singleton, Brooklyn, New York, for a tire tool described in the following:



A tire tool comprising: an arm adapted to be rotatably supported by the hub of a wheel, a tire stretching member supported on said arm for entry between the tire and rim of the wheel, anti-friction members one for peripheral engagement with the rim, one for engagement with the inside of the tire and one for engagement with the side of the rim all carried by said tire stretching member and a tire guiding member engaging with the side of the tire to move the latter into the plane of the rim.

Advertising Help and Comment

Send Us Copies of Your Advertisements. Let Us Help You Get Bigger Results by Advice and Suggestions. The Service Is Free.

The two column wide, five inches high advertisement of E. H. Smith, Hardware, which is shown herewith in reduced size, ran in

Baseball Outfits



BASEBALL Goods

that will make at hit
We have a complete line of baseball goods, gloves, mugs, masks, bats, balls and other baseball needs at this store. We can supply the needs of the small boy team or the big professional team with the same satisfaction and saving in price.

E. H. SMITH, Hardware

the *Daily Democrat*, Durant, Oklahoma.

It is exceptionally good from every angle of view.

The illustration is adequate.

The wording is clear and to the point.

The advertisement has just the right degree of emphasis.

Its attention-compelling power is accentuated by the excellent use of white space.

* * *

There is not a single flaw in the advertisement of Budden, Beard Company, Limited, which is here-

Electric Grill Stoves

For Summer Cooking

PRICES
\$4.95
\$5.50
\$5.75
\$9.50
\$12.00
\$14.00
\$15.00



You can cook anything on these grills, and will find they will give you complete satisfaction, all guaranteed.

BUDDEN, BEARD CO., Ltd.
Cor FIRST STREET WEST and EIGHTH AVE.

with reproduced from the *Daily Herald*, Calgary, Alberta, Canada.

Prices are stated plainly and unmistakably.

The illustration is clean-cut and graphic.

The text is perfect. It says everything that needs to be said and does it with direct persuasion.

The words "You can cook anything on these grills," are more convincing than a volume of technical data.

* * *

It is generally agreed that a distinctive style of type for the name of a firm or store is an advantage in advertising.

slightest signs of wear appear in the old ones.

The layout of this advertisement is neat and attractive.

There is not the slightest evidence of crowding of items and plenty of white space is employed to make the reading easy upon the eye.

The sharp reductions prominently mentioned in the copy no doubt help make the month end sale a success, both in increased business and gain of new trade.

Month-End Sale

Seasonable Goods at Sharp Reductions

Hammocks 20 p. c. Off Any and Every Hammock in Our Stocks	15 p. c. Discount Off All Refrigerators	Tennis Rackets 20 p. c. Off Any and Every Tennis Racket in Our Stock
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Emerson & Fisher Std.

25 GERMAIN STREET

It serves to fix the name in the memory of prospective customers.

By being different from the common run of type, it more easily forms a picture and becomes associated in the minds of the public with the establishment of which it is the title.

Emerson and Fisher, Ltd., use such a distinctive typography for their name in the advertisement reproduced herewith from the *Times and Star*, St. Johns, New Brunswick, Canada.

It will be seen, however, that the script letters of the name have a somewhat ragged appearance.

This distracts, to an extent, from the effectiveness of the distinctive character of the name in the advertisement.

It is due, no doubt, to the electro being worn from much use.

It would be advisable to watch this feature of the advertisements and to give instructions that new electros be used whenever the

Don't Be too Technical.

If you are appealing to the women in your advertisement, don't put in too much technical details.

Women are more interested in what a washing machine or vacuum cleaner can do for them than they are in the mechanical structure of these devices.

Make your appeal first to comfort, ease, and satisfaction.

Put Stress on Service.

It will pay you to put more thought of service into your advertisements.

Tell the people that you want them to feel at home when they come to your store.

Say to them that you're not satisfied with any sale until they are satisfied with it.

Assure them that you can not continue in business unless they get benefits out of everything they buy from you.

Warm Air Heating and Ventilating

*Better Installations. How to Sell More Warm Air Heaters.
Reports of Progress in Warm Air Heater Research Work.
Ventilating Factories, Garages, Theaters, and Houses.*

KANSAS CITY HEATING ENGINEERS RESUME MEETINGS.

The first fall meeting of The Kansas City Chapter of the American Society of Heating and Ventilating Engineers, was held October 1st in Hotel Savoy.

An unusually interesting paper was presented by H. C. Balsiger of the Kansas City Prudenzed Coal Company. His subject was "Fuel Efficiency."

The following officers were selected for the 1920-21 Chapter Year:

President: JOHN H. KITCHEN, John H. Kitchen & Company, Engineers.

Vice-President: LINN W. MILLIS, Security Stove Company.

Secretary: GEORGE P. DICKSON, B. F. Sturtevant Company.

Treasurer: R. WARD HILLMAN, U. S. Radiator Corporation.

Board of Governors: F. A. SHEPPARD, Johnson Service Company; B. NATKIN, Natkin Engineering Company; R. M. STACKHOUSE, American Radiator Company.

The following committees were appointed:

Membership Committee—MARTIN HAUSER, General Heating Supply Company, Chairman; HERBERT E. BARTH, American Blower Company; L. A. STEPHENSON, Powers Regulator Company; BENJAMIN F. COOK, Gillham Engineering Company; W. W. HOWE, Ideal Heating Company.

Publicity Committee: JOHN PEASE, Kewanee Boiler Company, Chairman; F. A. SHEPPARD, Johnson Service Company; GEORGE P. DICKSON, Secretary.

The policy of inviting outside speakers of prominence will be continued. Various topics for the monthly meetings are to be considered by the Board of Governors, also the appointment of the committees to be in charge of monthly meetings to be held the first Friday of each month, and the topics they are to handle.

Advise Galvanized Iron for Warm Air Pipes.

To AMERICAN ARTISAN AND HARDWARE RECORD:

I notice considerable argument in favor of bright tin plate for warm air pipes. My experience is that after such pipes are in the basement for one season, they become tarnished. Therefore I use and recommend galvanized iron for all pipes, whether warm air or cold air pipes. I put in about fifty jobs a year and have no trouble. I use No. 30 iron for warm air and No. 28 iron for cold air pipes.

The trouble with the heating industry is that too

many men are putting in furnaces who use no judgment. I figure all exposed wall and glass surface and have satisfaction always. Of course, I put in a good furnace, for I do not believe in cheap goods.

Respectfully yours,

C. W. DAVIS.

Whitewater, Wisconsin, September 30, 1920.

Makes New Pipeless Heater.

A new pipeless warm air heater is presented to the trade by the Mahoning Foundry Company of Youngstown, Ohio.

It is designed to meet the demand for a double jacket furnace with an inner heating unit. As shown in the cross sectional view of the accompanying illustration, the fire travel in this Mahoning Type "C" furnace is unusually long.

Attention is called to the lower inner ring bolted to either side of the ash pit throat. The next inner



Mahoning Pipeless Type "C" Showing Combustion and Heat Travel, Made by Mahoning Foundry Company, Youngstown, Ohio.

ring above it is secured to the front by means of a long bolt and sleeve or separator between the front and the ring.

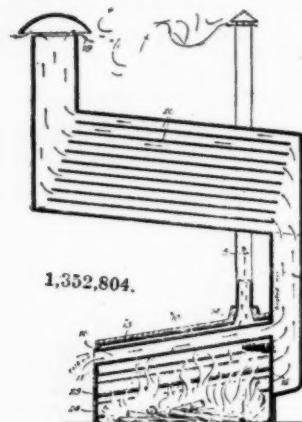
The fire pot and the slots taper larger at the bottom. As the outside of the coal is burned away, the soot and ashes drop freely through the grate, it is said, thereby leaving a clean surface at all times.

All parts of the furnace proper are of cast iron.

The ash pit is extra deep and the ash door has a large opening. Descriptive literature and full particulars may be obtained by writing to the Mahoning Foundry Company, Youngstown, Ohio.

Warm Air Heater Is Patented.

Under number 1,352,804, United States patent rights have been obtained by John W. Fieber, Shaw, Oregon, for a warm air heater described in the following paragraph:



A warm air heater including a portable casing of inverted U-form in cross section tapering from one end to the other and having small and large front and rear walls respectively, said casing having an open base and adapted to rest at its lower side edges on the ground, a plurality of air flues inclined within the heating chamber formed by said casing, in a series following the contour of the casing and opening at their opposite ends through the said front and rear walls, said flues being spaced from one another and from the casing in parallel relation, and a warm air pipe connected at its lower portion to the rear wall of the heater and in communication with the upper rear ends of the several air flues of the series, said casing having a door and an air inlet in its said front wall and an upper outlet adjacent to the rear wall, as described.

ber formed by said casing, in a series following the contour of the casing and opening at their opposite ends through the said front and rear walls, said flues being spaced from one another and from the casing in parallel relation, and a warm air pipe connected at its lower portion to the rear wall of the heater and in communication with the upper rear ends of the several air flues of the series, said casing having a door and an air inlet in its said front wall and an upper outlet adjacent to the rear wall, as described.

Summarizes Data on Heat Conductivity of Walls.

The external walls of a small house swallow up, in themselves, a great quantity of material. Endeavors then, are made to reduce the thickness of them, but within the limits where the stability of the construction is not compromised and where the insulation against inclement weather is sufficient. The static problem is easy to solve; that of the insulation requires very much more attention, states M. F. Gilliard in *Bulletin Technique*, as translated in Domestic Engineering of London, England.

Fuel is rare and its price is so high that, in order to maintain a dearly acquired heat inside the dwellings, the builder is bound to take the most minute precautions.

It is necessary that he should understand exactly the degree of permeability to the heat of other materials.

The "Schweizerische Bauzeitung" (25 October, 1919), has published an interesting study by M. Schulthess, architect, on this subject.

According to the tests that have been made in the Physical Laboratory of the Polytechnic School of Munich, the coefficients of conductivity of different types of masonry in use should be the following:

For the terra cotta brick:

A wall 9.84 inches has a coefficient of 0.196.

A wall 14.96 inches has a coefficient of 0.145.

Therefore the brick wall of 9.84 inches thick, statically sufficient for a small construction of one floor, is decidedly insufficient from the non-conducting point of view.

In order to be really guaranteed against humidity and cold, it will be necessary to adopt that of 14.96 inches.

But if a covering of impregnated cork slabs or compressed peat slabs of 1½ inches is added to a brick wall of 9.84 inches the coefficient of conductivity is no more than 0.113.

It is then lower than that of the 14.96 inch brick wall.

If we take blocks of limestone:

A wall of 14.96 inches has a coefficient of 0.235.

(It allows more heat to pass than a brick wall of 9.84 inches.)

A wall of 9.84 inches has a coefficient of 0.33.

In both cases the wall ought to be provided with an insulating covering of cork or peat.

The coefficients will thus be reduced to 0.123 for the wall of 14.96 inches and to 0.188 for that of 9.84 inches.

The opinion of M. Schulthess is that too great an insulating power is allowed for hollow bodies of concrete.

Thus a concrete wall of compressed gravel of 9.84 inches covered with slabs of cinder concrete, perforated, of 2.36 inches has for coefficient 0.242.

A covering of peat slabs of 1.2 inches on the same wall makes the coefficient fall to 0.119.

It is very important to examine the use of the air space as a non-conductor, its value is so exaggerated.

It has been proved that the air contained in the space arranged between two walls is set in movement.

By the fact of the difference of temperature between exterior and interior walls, an ascending and descending current is established which favors the transmission of heat.

On the other hand, the heat is transmitted by radiation across the air space.

Lastly the air is rarely dry and the humidity renders it more conductive for the heat.

A wall composed of two brick walls of 4.72 inches with an air space of 2.36 inches between them has a coefficient of conductivity of 0.166.

That is to say that it has a greater non-conducting power than a single brick wall of 9.84 inches and less than a similar wall of 14.96 inches.

Double wood partitions are also poor non-conductors.

A partition composed of 0.708 inch boards inside and 0.944 inches outside, with a space of 4.72 inches has a coefficient of 0.223.

In order to appreciate the non-conducting properties of different types of artificial hollow bricks introduced during the last few years and the use of which has become more and more frequent, it is necessary not to lose sight of a scientific fact: that the material having the most feeble specific weight and containing, in a given volume, the largest quantity of small air cells, is, from the heat point of view, the better non-conductor.

The following conditions are deduced:

The spaces reserved for air ought to be of small dimensions and numerous.

The divisions which separate them ought to be as thin as possible to avoid the direct transmission of the heat by the compact material employed.

Lastly, this material ought to be impervious to water so that the inferior air of the wall is not moistened.

It being understood that these conditions will only be able to be fulfilled so long as the resistance of the materials are not compromised.

If it is necessary to resort to a non-conductor, the peat-slab is suggested.

That is, according to those who have used it, the most certain and most economical.

Lime cement or gypsum, slabs, easy of application are found wholly insufficient for non-conducting, particularly in roofs.

Repeats Rules for Use of Warm Air Pipes.

It is just as necessary for the progress of the warm air heater trade to repeat the rules for pipes as it is to reprint the multiplication table in every new edition of an arithmetic.

These rules, as issued by the National Warm Air Heating and Ventilating Association, are as follows:

1. Each warm air pipe should have an upward pitch from the heater of not less than one inch per foot.

2. The pitch of all warm air pipes should be alike. Equalize by bringing down lower into the cellar the boxes of the shorter warm air pipes.

3. When a warm air pipe in cellar is more than fifteen feet long, add one-half inch to the diameter of such pipe for each five feet or part thereof, of length in excess of fifteen feet (or, when odd one-half inch sizes of pipe are not used), add one inch to diameter of pipe for each ten feet, or part thereof, of length in excess of fifteen feet. In such case, the capacity of a riser should be increased to equal the capacity of the cellar pipe.

4. An offset in the riser pipe is equivalent to an addition to the length of the cellar pipe, and should be counted in when measuring the total length of the cellar pipe.

5. All warm air pipes in cellar or basement should be covered with non-heat-conducting pipe covering. Not less than ten pound sheathing is recommended.

6. All warm air risers should be carried up in inside partitions, wherever possible.

7. In cases where it is absolutely necessary to carry up warm air risers in outer walls, such risers should be so thoroughly protected as to be completely insulated.

8. In using double wall pipe the capacity should not be reduced.

9. A separate compartment should be made in the crown or bonnet of the surface for each extra long or winding air pipe, thus insuring a positive supply of warm air to the pipe.

10. Never use smaller than eight inch pipe.

11. When warm air pipes are taken out of the top

of the bonnet of the heater, the tops of all the elbows should be on a level, so that an equal current of air can fill all the pipes.

Note: As a twelve inch elbow is so much higher than an eight inch elbow, in order to have both pipes work properly, the top of the eight inch elbow should be as high as the top of the twelve inch. This applies to all pipes taken from the top of the heater. The same rule applies as nearly as possible where pipes are taken from the side of the bonnet.

12. Rooms on the sides of the house exposed to prevailing winds should always have one size larger pipes and registers than the same sized rooms on the sides of the house not so exposed.

13. Rooms having bay windows and considerable more than the average glass surface on the northern side of the house, should have two sizes larger warm air pipes and registers than the same sized rooms without this extra glass surface on the southern side.

14. Where warm air pipes pass through the wall in the cellar, an air space around the pipes should always be left. Never mason a pipe in solid that passes through the wall in the cellar, as the wall chills the pipe and makes that pipe almost worthless.

15. All warm air pipes should have dampers close to the heater, so that heat from them can be regulated.

16. All rising pipes in partitions or walls should be enlarged or boxed out where cellar pipes enter them. This is necessary to avoid friction and insure a rapid flow of air.

17. All rising warm air pipes running from second to third floor should always have damper above the register on second floor. Rising pipes should be wrapped with asbestos and studs lined with tin, using wire or iron lath to plaster on.

18. The friction from abrupt bends or acute angles in warm air pipes must be avoided.

19. Fireplaces in rooms having flues 12x12 inches, which is equal to one hundred and forty-four square inches, or 8x12 inches, which is equal to ninety-six square inches, or 8x8 inches, which is equal to sixty-four square inches, will in cold or windy weather pull off more air from a room than the warm air pipes can deliver. In such cases, use sheet iron throat pieces with sliding damper in fireplace flue. The ventilation can thus be regulated as desired.

20. In heating a room on the cold side of the house, or a room having a large amount of glass surface, place one register in the floor as near as possible to the furnace and place a cold air register face in the floor under or near a window and connect this cold air register by means of a separate duct to the bottom of casing, thus removing the cold air out of the room and at the same time providing a flow of warm air into the room.

21. The heater must be attached to a chimney flue of correct construction, one that will furnish sufficient draft to insure a good combustion of fuel.

22. The fresh air supply to the heater must be adequate.

Cheering up today makes it lots easier to do tomorrow.

Practical Helps for Tinsmiths

No Two Jobs Are Exactly Alike. Therefore, the Sheet Metal Worker Has to Meet Each Difficulty as It Comes. Send Your Problems to Us. Let Our Experts Help You.

PATTERNS FOR AN AUTO BODY HOOD.

By O. W. Kothe, Principal St. Louis Technical Institute and Instructor in the David Rankin, Jr., School of Mechanical Trades, St. Louis, Missouri. Written especially for American Artisan and Hardware Record.

Very often rear bodies can be made as in the annexed drawing. The hood is treated as one part, and the lower turn down is treated as another part. Workmen who are skilled with the raising hammer can bump the metal out to conform to the dotted line of elevation. Automobile plate as a rule is quite soft and pliable, and so under a skilled hand it can be nicely worked up.

If this is not possible, then the straight lines of elevation can be left that way.

The first step is to draw the outlines of elevation, placing the knuckle joint with the miter line where you wish it. Then determine the half section through back of hood.

Observe the corners are made to a quarter circle while other members are straight. From each of these points carry lines over into the outline of hood.

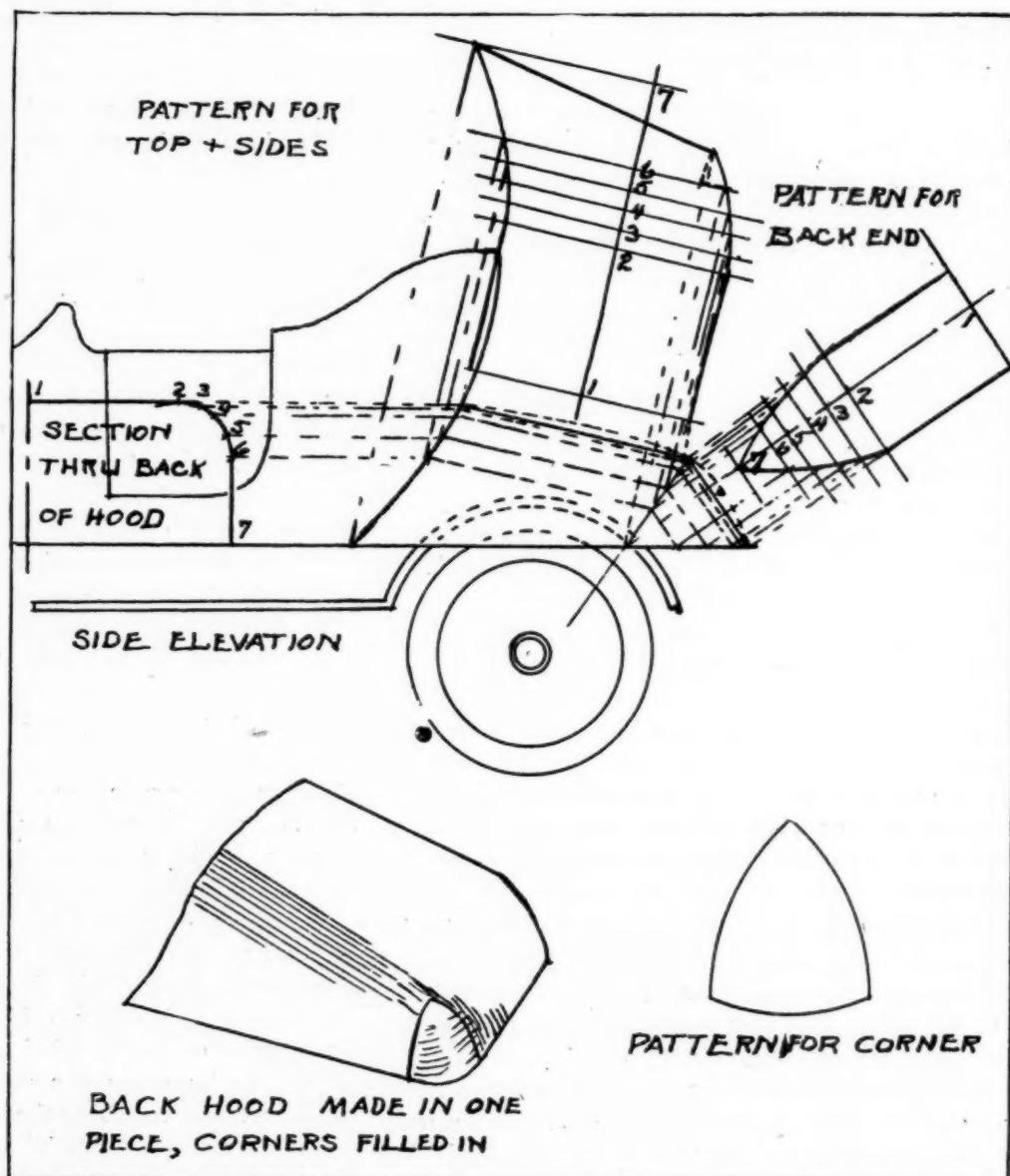
Now if the knuckle and miter line set well, the same girth can be used for both parts. If a readjustment is made then it would be necessary to make a change of profile for the turn down end.

However, considerable give and take is permitted so the skilled worker knows how to overcome it. To set out the patterns, pick the girth from section through body of hood, and set as 1-7 in both patterns. Draw stretchout lines, and from each point in miter

lines of elevation, project lines into the stretchout.

Where these lines cross those of similar number, it furnishes the outline for patterns. Edges must be allowed for.

Now should it be the hood is to be made as in the lower sketch, then it can be made in one piece, the corners are swept out, and filled in. When the edges of point are countersunk, and a good filler is used before painting, the joint would not be noticeable.



Patterns for Body Hood.

Close observation of all the cars you see should be made, and any new feature should be studied out and made use of.

Let no one suppose that the world has been waiting for him to save it.—Goethe.

Salesmen Entertain Indianapolis Sheet Metal Contractors.

The Jobbers and Salesmen's Auxiliary to the Indiana Sheet Metal Contractors' Association gave a smoker to the Indianapolis Sheet Metal Contractors on Saturday evening, October 2nd, which was attended by about fifty contractors.

After a program of popular airs played by a jazz band composed of salesmen of Tanner and Company, President E. W. Norman, of Merchant and Evans Company, spoke briefly, calling attention to the many opportunities for increased business along new and old lines and exhorting the contractors so to coordinate their efforts that they would reap the greatest possible benefit when the building boom started, as it was certain to do in the near future.

President Norman then called on Ralph W. Blanchard, of Hart and Cooley Company, New Britain, Connecticut, who told of the splendid results gained by cooperative effort in the cities and towns where the Michigan Sheet Metal Contractors' Association is represented, and emphasized the necessity for knowing what is included in "Overhead Cost," as well as for close collections, telling a good story on Ralph R. Reeder to bring out his point.

A. George Pedersen, of AMERICAN ARTISAN AND HARDWARE RECORD, congratulated President Norman on the fine work which his organization had already accomplished in its short life—only two months—and expressed his conviction that with a group of hustlers like the fifty-odd salesmen who are now members of the Jobbers' and Salesmen's Auxiliary, there was every reason to expect an exceptionally efficient organization campaign among the sheet metal contractors of Indiana, and more especially of Indianapolis.

He suggested as the three principal objective points of organization work, closer acquaintance, willingness to coöperate, and better knowledge of overhead costs.

President Norman then called for remarks by the visiting contractors, bringing out the point that a movement to fix a set price for a certain kind of job should not be among the objects of any organization—principally because it is against the laws of this country—but that a clearer understanding of what enters into the cost would give to each contractor a better understanding of how he should figure his price to the customer.

Among those who spoke were the following: Homer Selch; Joseph C. Gardner, President of the State Association; Ralph R. Reeder, Secretary of the State Association; W. Waters; William E. Reno; Joseph Wirth; Robert Keith, all of whom expressed themselves in favor of one strong association of sheet metal contractors in Indianapolis.

As a result of the discussion, Mr. Selch extended an invitation to the "Big Eight," as well as to all other sheet metal contractors of Indianapolis who were not then members of either of the two organizations now in existence, to attend the meeting of the Independent Sheet Metal Contractors' Association, to be held Wednesday, October 6th, at which the matter of forming one strong association would be considered.

This invitation was accepted on behalf of the "Big

Eight," who are members of the Builders' Exchange, by Mr. Gardner. The sheet metal contractors of Indianapolis are thus in a fair way to have an organization which will be strong enough to handle the labor situation as well as other important matters in a manner which will reflect credit upon the trade in general and result in better operating conditions for each member, and when this happy result is accomplished, they will have the Jobbers' and Salesmen's Auxiliary to thank for having set the ball in motion.

The following salesmen are the charter members of the Jobbers' and Salesmen's Auxiliary to the Indiana Sheet Metal Contractors Association:

N. C. Apgar, Tanner and Company, Indianapolis, Indiana.
H. A. Beaman, Haynes-Langenberg Company, St. Louis, Missouri.

F. E. Beeth, Merchant and Evans Company, Philadelphia, Pennsylvania.

R. W. Blanchard, Hart and Cooley Company, New Britain, Connecticut.

Ben Booth, Tanner and Company, Indianapolis, Indiana.

C. A. Burgy, Ludowici-Caledon Company, Chicago, Illinois.
W. A. Buxton, The Standard Metal Company, Indianapolis, Indiana.

J. B. Clements, The Mahoning Foundry and Furnace Company, Youngstown, Ohio.

Miss Etta Cohn, AMERICAN ARTISAN AND HARDWARE RECORD, Chicago, Illinois.

A. R. Dewey, Van Camp Hardware and Iron Company, Indianapolis, Indiana.

Louis D. Eward, Hardware Mutual Casualty Company, and Hardware Mutual Fire Insurance Company, Argos, Indiana.

F. M. Farbur, Marshalltown Manufacturing Company, Marshalltown, Iowa.

E. E. Griffith, Tanner and Company, Indianapolis, Indiana.
Charles Hall, Hall-Neal Furnace Company, Indianapolis, Indiana.

F. E. Halloran, Vonnegut Machinery Company, Indianapolis, Indiana.

E. M. Harris, The Monitor Stove and Range Company, Cincinnati, Ohio.

J. C. Henley, Tanner and Company, Indianapolis, Indiana.
E. H. Hoffeld, Ferdinand Dieckmann Company, Cincinnati, Ohio.

G. F. Hoppe, H. W. Johns-Manville Company, New York City.

R. W. Ingalls, The Standard Metal Company, Indianapolis, Indiana.

H. R. Jones, Tanner and Company, Indianapolis, Indiana.
George B. Jostin, Tanner and Company, Indianapolis, Indiana.

Robert Kruse, Kruse Company, Indianapolis, Indiana.

Sam H. Keller, The Berger Manufacturing Company, Canton, Ohio.

A. P. Lamneck, The W. E. Lamneck Company, Columbus, Ohio.

Charles R. Livengood, Culter Procter Stove Company, Peoria, Illinois.

Jacob N. Mayer, Tanner and Company, Indianapolis, Indiana.

O. G. Merrill, Haynes-Langenberg Company, St. Louis, Missouri.

E. W. Norman, Merchant and Evans Company, Philadelphia, Pennsylvania.

J. M. Oiphant, The Meyer Furnace Company, Peoria, Illinois.

A. George Pedersen, AMERICAN ARTISAN AND HARDWARE RECORD, Chicago, Illinois.

Louis H. Pearce, National Lead Company, New York City.
Karl Roth, Braden Manufacturing Company, Terre Haute, Indiana.

Edwin A. Scott, Editor Sheet Metal, New York City.
William A. Shea, Tanner and Company, Indianapolis, Indiana.

E. W. Sidwell, Beckwith Company, Dowagiac, Michigan.
J. C. Weirman, Schaab Roofing and Supply Company, Indianapolis, Indiana.

F. A. Wilkening, The Standard Metal Company, Indianapolis, Indiana.

M. R. Williams, Braden Manufacturing Company, Terre Haute, Indiana.

Blake Wright, Tanner and Company, Indianapolis, Indiana.
William J. Zackarias, Tanner and Company, Indianapolis, Indiana.

The officers are the following:

President, E. W. Norman, 601 City Trust Building, Indianapolis, Indiana.

Vice-President, Harry R. Jones, 308 Kenmore Road, Indianapolis, Indiana.

Secretary, H. A. Beaman, 105 North Alabama Street, Indianapolis, Indiana.

Treasurer, E. W. Sidwell, 450 East Walnut Street, Indianapolis, Indiana.

Bay City Sheet Metal Contractors

Enjoy Annual Outing.

The Sheet Metal Contractors' Association of Bay City, Michigan, journeyed by boat to Saginaw Bay, Michigan, for their recent annual outing, and Frank T. Daly and F. E. Ederle, President and Secretary respectively of the Michigan State Association, came over from Jackson and Grand Rapids to make certain that everything went off in proper shape. In his report he calls special attention to the splendid "Fish Fry" which was prepared by William Wanless and R. Schaefer. He also took a picture of the members, as they were ready to start for the outing, which by the way was held at the summer cottage

of Schepper and Covert, one of the firms represented in the Association. Reading from left to right in the accompanying illustration, they are W. J. Grove, J. P. Tossell, William Whitney, W. J. Wanless, Herman Buelow, the industrious Secretary; Frank Daly, of Jackson; F. E. Ederle, R. Schaefer, Adam Schepper, G. Kubach, C. H. Hart, and Edward Covert.

After the dinner a meeting was held, and either the discussion or the weather got too hot for Frank Daly, for all of a sudden the other members of the party were surprised to see him plunging around in the water of the Bay, presumably to cool off, although someone was unkind to intimate later on that "Ed" Covert had pushed him in.

The "band instruments" used by those sitting on the cabin roof are the property of the Detroit Sheet Metal Contractors' Association and were all made by regular sheet metal workers, even though possibly they were not quite accurate in tone producing qualities.

The party returned to Bay City well pleased with their day of fun and entertainment.

Forms District Association At Chelsea, Michigan.

As the result of a preliminary meeting held in C. L. Baughmann's hardware store, Dexter, Michigan, a permanent district association of the Michigan Sheet Metal Contractors' Association was organized October 1st.

Frank T. Daly, President, and Frank E. Ederle,

Secretary, respectively, of the State Association, were in charge of the meeting.

It was held at Chelsea, and dealers from Dexter and Manchester were in attendance.

Instructive discussions were held on better methods of shop management and the need of more thorough coordination of effort through organization.

Officers for the new district association were chosen as follows:

President: C. L. BAUGHMANN, Dexter;

Secretary: EARL UPDIKE, Chelsea;



Members of Sheet Metal Contractors' Association of Bay City, Michigan, on Way to Saginaw Bay for Annual Outing. Left to right: W. J. Grove, William Whiting, W. J. Wanless, Herman Buelow, Frank Daly, F. E. Ederle, R. Schaefer, Adam Schepper, G. Kubach, C. H. Hart, Edward Covert.

Treasurer: L. KUEBLER, Manchester.

The next meeting of the new organization will be held in Chelsea, Thursday, October 21st.

Dealers from Stockbridge, Brooklyn, Saline, and Grass Lake, Michigan, will be invited to attend.

Old-Time Sheet Metal Salesman Makes His Last Journey.

One of the oldest sheet metal salesmen on the road made his last journey in the person of Oscar Baker of Delaware, Ohio, who died recently after a brief illness.

Mr. Baker was born in the year 1852, and has been actively identified with the sale of sheet metal products for the past thirty-five years.

The last twenty years has been spent with F. O. Schoedinger of Columbus, Ohio, manufacturer of metal cornices and skylights.

In addition to being a splendid salesman and an exemplary employee, Mr. Baker was a man of sterling qualities. His ideas of life and conduct were of the high, substantial Puritan type which in all generations has been the bulwark of our Republic.

Mr. Baker had a smile and a cheery word for all, and his great circle of business and social friends will feel keenly the loss of such a staunch friend and true citizen.

Some people are like a million-dollar check on a ruined bank. They look big, they promise great things, but you can't cash them.—Lincoln.

Gasoline Fire Pot Embodies Patented Improvements.

A number of patented improvements are embodied in the No. 71 Gasolene Fire Pot shown in the accompanying illustration made by the Clayton and Lambert Manufacturing Company, Detroit, Michigan.



No. 71 Gasolene Fire Pot, Made by Clayton & Lambert Manufacturing Company, Detroit, Michigan.

A pot of lead or solder and a pair of soldering irons up to twelve pounds weight can be quickly heated at the same time.

An improved air pump is fitted to the tank. The pump has a double spring automatic check valve, thus insuring promptly the required air pressure.

The bottom of the tank is guarded against injury by the patented Cushion Protection Band.

Filling of the tank is made easy by a large funnel which prevents waste of fuel.

It is fitted with a filler plug having a dust proof cap which keeps dirt from working into the gasoline.

A notable feature of the economy in the No. 71 gasoline fire pot is the sub-flame for the burner which allows the heating flame to be turned low if desired and the full flame may be turned on instantly to obtain the maximum heat.

Another desirable feature is the fact that the fire pot weighs only fourteen pounds and is very handy for carrying around for job work. It is adapted for indoor use or outside work under severe conditions of wind or weather.

A catalogue showing the complete line of Clayton and Lambert fire pots and torches can be obtained by addressing the Clayton and Lambert Manufacturing Company, Detroit, Michigan.

Removes to New Building.

Increased facilities are made available for K. Hirsch Sheet Metal Works, in the firm's new building, 1619 North Claremont Avenue, Chicago, Illinois.

The office and works have been moved to the new structure and announcement is made to the trade that more efficient service will be given as a consequence of the improved equipment of the new quarters.

Gets Helps from Each Issue of AMERICAN ARTISAN.

To AMERICAN ARTISAN AND HARDWARE RECORD:

There is never an issue of your journal which does not bring some new information or plans that I can use in my business as a model maker.

JOHN STOLPE.

McPherson, Kansas, October 2, 1920.

Calls Attention to the Value of Cost Accounting.

In a bulletin just issued under the title, "What a Cost System Should Do for You," the Fabricated Product Department of the Chamber of Commerce of the United States calls attention to the purpose and value of cost accounting.

"Accurate information regarding the various elements which go to make up costs," says the bulletin, "automatically eliminates arbitrary, empirical or guess costs which prevail to a surprising degree among manufacturers."

"Cost keeping brings to light inefficiencies in system by calling to attention the cost of its operation and points out equipment that has become inadequate by showing an excessive cost of product coming therefrom."

"It points out employes who are below the standard required and permits of performances being kept within certain limits by watching the accumulation of costs."

"Increased production depends largely on the intimate knowledge the management has of all elements in their manufacturing operations which can only be supplied through an adequate cost system."

"It enables them to establish proper control and increase output as warranted by the cost record."

"In many plants considerable sums of money are spent to establish a standard practice of operation."

"From time to time certain variations from the established standard practice occur, affecting costs in an adverse way."

"Timely costs reports showing what is happening, rather than what has happened, suggest immediate correction of such inefficiencies."

"It is not sufficient that executives know that expenditures are excessive; they should be supplied with information to show exactly where these excessive expenditures occur and take action."

"Definite responsibility for expenditure as the authority to make the expenditure should be fixed by an adequate system of cost accounting."

The bulletin takes occasion to say that part of the work of the Fabricated Production Department will be to assist organizations in obtaining for the industries they represent cost systems as practicable and as simple as possible.

"We shall not either devise or install cost systems," it says, "but by cooperative study of each situation, aided by the contributed experience of trade organizations and expert knowledge of the subjects, help those who are disposed to help themselves."

Incorporates Sheet Metal Works.

The Western Sheet Metal Works, New York City, has been chartered with a capital stock of \$5,000. The incorporators are A. C. Roessler, E. P. Malley, and B. Roessler, College Point, New York.

You can't expect to win a large success in business unless you invite success through advertising.—Printers' Ink.

Instructive Notes and Queries

The Service of This Information Bureau Is Free to Our Subscribers and They Are Urged to Use It Freely.

SHOWS HOW TO GALVANIZE BRASS AND COPPER.

Occasionally the problem arises in a sheet metal shop of galvanizing brass or copper.

It is well to know how this may be done.

The usual method is to cover finely divided zinc with a concentrated solution of sal ammoniac in a non-metallic container.

The mixture is heated to boiling and the articles of brass or copper, after being thoroughly cleansed, are inserted.

Holding the articles of brass or copper in the mixture for a few minutes is enough to produce a brilliant and firm coating.

It is important that the zinc be of the proper fineness.

This is done by pouring melted zinc into a mortar and triturating it until it solidifies.

Describes Cold Tinning.

A subscriber asks directions for tinning small articles by cold process.

The method generally used is to dissolve block tin in muriatic acid with a little mercury.

This combination forms a very good amalgam for cold tinning.

The usual proportions are one part of tin, two of zinc, and six of mercury.

The mercury and tin are mixed together until a soft paste results.

The metal to be tinned is cleansed and great care is exercised to have it entirely free from greasiness. It is then rubbed with a piece of cloth moistened with muriatic acid.

Immediately thereafter a little of the amalgam is applied to the surface and the surface is thoroughly rubbed with the same piece of cloth.

If properly done, the amalgam will stick to the surface and satisfactorily tin it.

Steel, copper, wrought iron and cast iron can be tinned by this process.

Tells How to Prepare Solder for Aluminum Bronze.

The important ingredient in the preparation of solder for aluminum bronze is zinc amalgam.

The zinc amalgam is used with ordinary soft solder in varying proportions—the one most commonly used being ordinary soft solder, two parts and zinc amalgam one part.

It is easy to prepare zinc amalgam for use in this solder. Zinc amalgam is an alloy of zinc and mercury.

It is prepared by adding two parts of pure zinc

to one of mercury, thoroughly stirring, cooling it off as quickly as possible.

Zinc amalgam when cold forms a very brittle alloy which has a silver white color.

In the making of the solder for aluminum bronze, the ordinary soft solder is first melted and then the finely powdered zinc amalgam and the whole mixture is poured at once into the moulds.

* * *

Refrigerator Manufacturers.

From Henry L. Lang, Omaha, Nebraska.

Will you please give me the names of manufacturers of refrigerators.

Ans.—Illinois Refrigerator Company, Morrison, Illinois; Alaska Refrigerator Company, Muskegon, Michigan; White Frost Refrigerator Company, Jackson, Michigan; McCray Refrigerator Company, Kendallville, Indiana; Herrick Refrigerator and Cold Storage Company, Waterloo, Iowa; Excelsior Stove and Manufacturing Company, Quincy, Illinois; Challenge Refrigerator Company, Grand Haven, Michigan; Belding Hall Company, Belding, Michigan; Progress Stove Company, Louisville, Kentucky.

Radiator Trucks.

From Van Denberg Supply Company, 126 North Water Street, Rockford, Illinois.

Please tell us who make a truck for moving or handling cast iron radiators.

Ans.—Lansing Company, Lansing, Michigan; H. Zering Manufacturing Company, Cincinnati, Ohio; Buell Brothers, Fulton, New York; Jamestown Car Parts Manufacturing Company, Jamestown, New York.

Electric Soldering Irons.

From C. R. Oberholtzer, 509 West Maumee Street, Angola, Indiana.

Where can I procure electric soldering irons.

Ans.—Belfry and Craighead, 1526 Tribune Building, Chicago, Illinois; Dover Manufacturing Company, Dover, Ohio; Chambers Bering Quinlan Company, Decatur, Illinois; American Electrical Heater Company, Burroughs and Woodward Streets, Detroit, Michigan.

Portable Cream Cans.

From Kokborg Retinning Works, Richland Center, Wisconsin.

We would like to know who manufactures portable cream cans.

Ans.—A. H. Barber Creamery Supply Company, 306 West Austin Avenue, Chicago, Illinois; Creamery Package Manufacturing Company, 61-67 West Kinzie Street, Chicago, Illinois.

Structural Steel Clips.

From Friedley-Voshardt Company, 733-737 South Halsted Street, Chicago, Illinois.

Kindly advise who makes structural steel clips for holding corrugated iron on steel girders.

Ans.—Streeter Clip and Specialty Company, 4125-27 Ravenswood Avenue; Albert C. Racky, 531 South Fifth Avenue; both of Chicago, Illinois.

Illustrations of New Patents

Watch This Page. Keep Yourself Informed Concerning Improved Devices Which May Save Labor in Your Shop or Add Another Source of Income to Your Retail Store.

1,352,011. Safety-Razor-Blade Holder. Frank McEown, New York, N. Y. Filed Nov. 22, 1919.

1,352,012. Tool-Handle. Walter McKenzie, Tulsa, Okla. Filed May 25, 1918.

1,352,048. Fireplace Heater and Cooker. Thomas Carter, Belton, S. C. Filed May 3, 1918.

1,352,054. Fish-Bait. Henry S. Dills, Garrett, Ind. Filed Dec. 18, 1915.

1,352,119. Fruit-Jar Fastener. Leo A. Drey, St. Louis, Mo., and James L. Hiatt, Sapulpa, Okla., assignors to Schram Glass Manufacturing Co., St. Louis, Mo., a Corporation of Missouri. Filed May 17, 1919.

1,352,122. Window and Wall Cleaner. Henry Engel and Edward Feldman, New York, N. Y. Filed March 19, 1920.

1,352,147. Door-Stop. Arthur Clarke Sargeant, Agawam, Mass. Filed May 13, 1919.

1,352,248. Roof Connection for Vent-Pipes. Enos E. Coar, South Bend, Ind. Filed Dec. 13, 1917.

1,352,267. Firearm. Lindley D. Hubbell, Hartford, Conn. Filed April 7, 1920.

1,352,273. Clothesline. Ralph D. Johnson, Fairbury, Ill. Filed Dec. 1, 1919.

1,352,290. Tent-Stove. Joseph E. Leonard, Cedar Rapids, Iowa. Filed Feb. 25, 1919.

1,352,325. Fruit-Peeler. Ward Sullivan, Sidney, Ohio. Filed Feb. 12, 1917. Serial No. 148,035. Renewed Feb. 2, 1920.

1,352,352. Oven-Grill. George Barker Caswell, Fort Terry, N. Y. Filed March 29, 1920.

1,352,358. Gas-Burner for Heaters. Rufus Depew, Brooklyn, N. Y. Filed Feb. 12, 1920.

1,352,372. Extension Window-Screen. John H. Kessler, Binghamton, N. Y. Filed Jan. 20, 1919.

1,352,380. Portable Metal-Turning Lathe. George W. Prisbrey, St. George, Utah, assignor of one-sixth to Brigham Carpenter and one-sixth to Robert Fawcett, St. George, Utah. Filed Dec. 11, 1919.

1,352,456. Door-Stop. John Melus, Guynn, East Newport, Ark. Filed Feb. 9, 1920.

1,352,461. Wrench. John E. Lenholt, Guilford, Conn., assignor of one-half to Charles R. Tainter, Guilford, Conn. Filed Oct. 22, 1919.

1,352,473. Gas-Heater. Joseph W. Piatt, New York, N. Y. Filed Nov. 30, 1917.

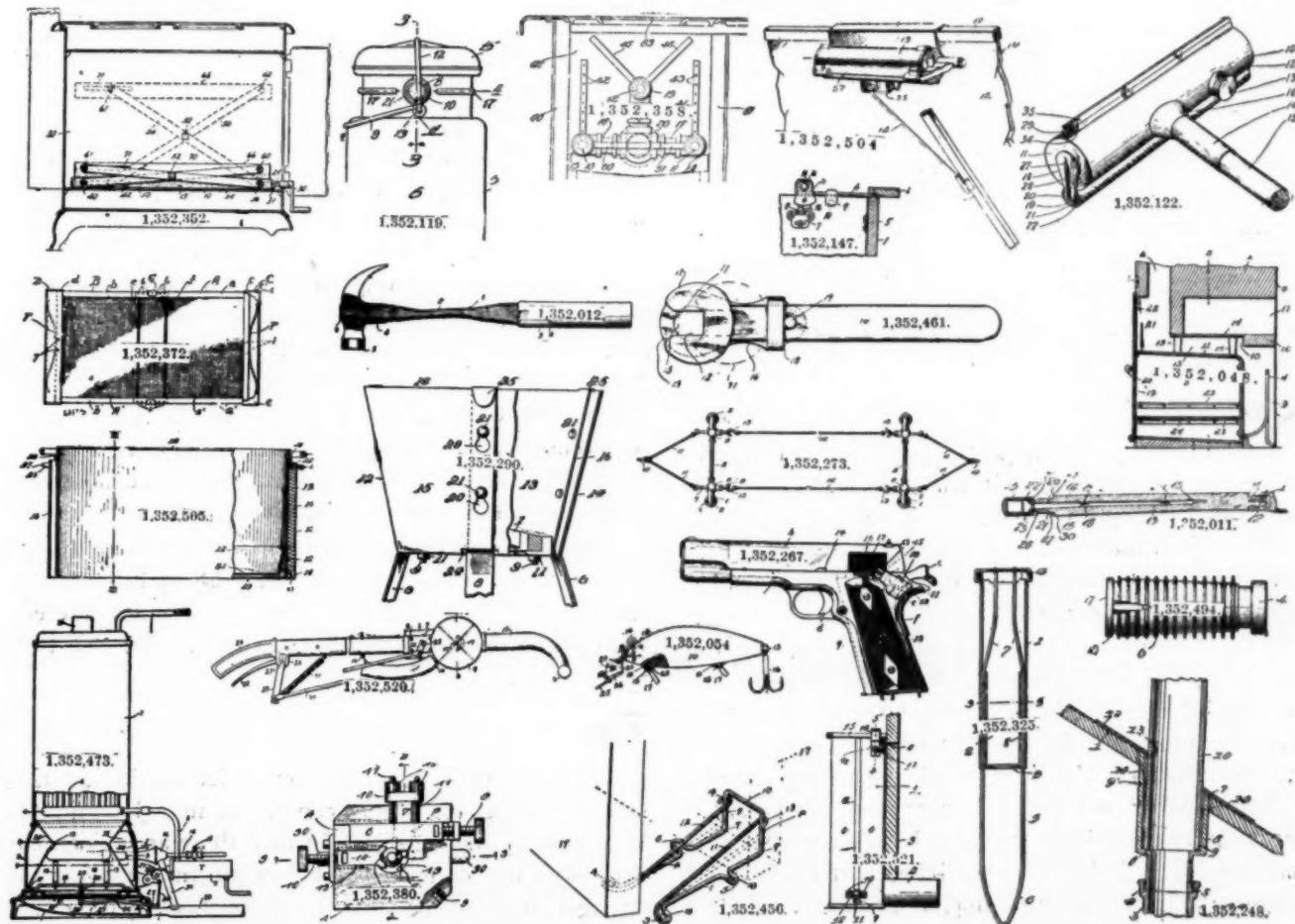
1,352,494. Expansion-Shield. Lothar R. Zifferer, Lancaster, Pa. Filed April 2, 1919.

1,352,504. Windshield-Cleaner. William M. Folberth, Cleveland, Ohio. Filed Oct. 4, 1919.

1,352,505. Boiler. Martin Folkush, Milwaukee, Wis. Filed April 10, 1920.

1,352,520. Vacuum-Cleaner. Floyd L. Leland, Flint, Mich. Filed Sept. 21, 1918.

1,352,521. Garbage-Can. Rosa B. Lewellen, Hylton, Tex. Filed Oct. 7, 1919.



Weekly Report of the Markets

General Conditions in the Steel Industry. Review of Prices and Tendencies in Sheet Metals, Pig Iron, etc.

REDUCTION ON AUTOS HAS LITTLE INFLUENCE ON STEEL TRADE,

When Henry Ford announced a sweeping reduction in the price of his motor vehicles which was followed by corresponding reductions on other automobiles, the trade in general felt that this might mark the beginning—in fact be the cause—of a general slashing in prices in all lines, both unfinished and finished. But so far such a general reduction has not manifested itself and from all that can be obtained in the way of first hand information, there is little likelihood that such a general reduction will take place—or that at any rate it will not happen until considerably after January 1, 1921.

In this connection it should be kept in mind that while automobile manufacturers use a large amount of steel they call for a class of material which is altogether different from that used by the average manufacturer in the metal trades. So that while, of course, there have been a number of cancellations from automobile manufacturers, such cancellations will have little or no effect upon the volume of steel regularly produced for ordinary fabricating and commercial purposes, except insofar that mills may turn their facilities which up to the present time have been engaged on automobile material into producing other fabricating and commercial material, which would have a tendency to ease up the present difficulty of obtaining deliveries in many of these lines.

There have been several moderate reductions in the softer metals but it is not thought that these reductions indicate a general trend downward, but rather that they are caused by some momentary condition in the trade which may be changed within another week.

Steel sheets, however, are showing some weakness which might also apply to plates, shapes, bars, and billets, all of which have been lowered approximately two dollars per ton.

Steel.

It is reported that independent steel manufacturers who have been holding out for 3.25 cents for steel plates have accepted a number of orders of considerable size on the basis of three cents a pound. One Ohio mill has offered billets at \$50 Pittsburgh while others are quoting \$52.

It is, however, well to keep in mind that one important factor which tends to keep prices steady on this line of material is the manufacturing cost. The three largest items in the cost of steel making are transportation for the purpose of assembling the raw materials, labor and fuel. As everyone knows, transportation charges have recently been increased very considerably. Labor is receiving extremely high wages and generally speaking is inefficient. Fuel is

both scarce and high. It is safe to say that so long as these three factors maintain their present high point, prices of fabricated steel are not likely to be reduced very much.

Copper.

The leading copper producers have recently announced two cuts in prices, the result of which shows a reduction of one-half cent a pound, basic prices being 17.50 cents for deliveries the remainder of the year. Outside markets and smaller producers are quoting from 16.75 to 17.50 refinery.

An important feature of the copper market is the pending labor troubles in England which effect the export trade and this naturally has an influence upon the domestic business.

Owing to the drop in sterling exchange the New York equivalents of London prices on electrolytic copper are reduced to 17.25 cents; futures to 17.70 cents and standard spot 14.65 cents, which represents a decline during the week of forty points for electrolytic, twenty points for futures and twenty-five points for standard spot.

The following prices for wire and sheet copper can only be classed as nominal; copper wire 22.50 cents net, sheet copper base 29.50 cents.

Lead.

The most important point of the domestic lead market during the past week is a further reduction in price by the leading interest to 7.75 cents a pound New York and 7.50 cents St. Louis. Although the outside interests are quoting virtually the same prices some offerings have been noted on even a lower basis. The condition in the markets is being depressed by heavy shipments of cheap foreign lead which has been pouring in for several weeks past and by a cessation of export shipments—such sales amounting to only approximately 300 tons for the month.

Consumers appear to be pretty well covered as to requirements and show no inclination toward renewing buying activities, so that naturally the curtailment in production at mines and smelters continues.

Chicago prices on lead are thirty points lower than last week, the new quotations being \$8.25 for American pig, and \$8.75 for bars, sheet lead being offered at \$11.50 in full coils and \$11.75 for cut coils, all per 100 pounds.

Tin.

Although there has been some decline in the tin market during the week, conditions may be said to have improved somewhat. In fact, there are evidences that both the domestic and foreign tin situation is stronger at this time than for some weeks past.

As an indication of the condition it may be stated that 25 tons of Straits tin for prompt delivery were sold at auction on the New York Metal Exchange Tuesday of this week at 42 cents per pound which figure may thus be taken as the regular market price for quantities of that size. Futures, however, are much more difficult to report but it would not be an easy matter to obtain tin for future delivery at less than one cent per pound more than the price for spot tin.

Tin imports for September total 5,335 tons and stocks in ware houses, at dock and landing—all New York—as of September 30, are shown as 3,731 tons with 3,285 tons en route. Imports of Bolivia ore amounted to 2,700 tons which are traded in for their tin contents.

Chicago prices for tin are quoted as follows: pig tin 46½ cents and bar tin 48½ cents, a reduction of ¼ of a cent per pound from the figures of last week

Zinc.

A number of zinc smelting plants in Arkansas have been forced to suspend operations on account of a strike. It is believed that the total number of retorts in operation throughout the country is now less than 70,000 as against a 105,000 during the first six months of this year.

Demand by consumers is very slack, however, and as no export business can be done at the prices now ruling in England or on the European Continent, the curtailment in production has not caused any shortage of supplies while on the other hand, no unwieldy surplus has been accumulated. In fact, stocks at the smelters are hardly large enough for even one month's supply.

The market shows no change, either as to activity or prices. Prime Western is offered for prompt shipment at 7.50 cents St. Louis and nominally at the same figure for November shipment, but smelters who are willing to accept future business on the present price basis are few and far between although one or two of the sheet galvanizers are showing some interest in offerings for January and February.

The Chicago quotation on zinc in slabs is \$8.20 per 100 pounds, a reduction of 30 cents from last week.

Solder.

A reduction of \$1.00 per hundred pounds has been made in Chicago prices on bar solder, the new quotations being: Warranted, 50-50, \$30.50; Commercial, 45-55, \$28.50; and Plumbers' \$25.50.

Tin Plate.

The shortage of immediate supplies of tin plate is still in evidence and indications are that only a full supply of labor and material will enable the principal interest in this field to fulfill its obligations, and even then not until well into the new year. One of the important factors in the tin plate market is the heavy demand made by canners as well as by manufacturers of containers for oil, milk, tobacco, etc., who are still considerably behind on their contract for this material, and this naturally affects the general situation in the tin plate field.

Sheets.

While prices on steel sheets continue to hold fairly firm in the Chicago market, there is no outside change to be noted nor is there any considerable activity shown. Sheet mill operations continue on a basis of about 85 per cent production, which in itself would indicate that this field of the steel industry is in fairly good condition.

The cancellation of orders for special sheets by the automobile industry appear to have nearly run its course, and such little readjustment in the distribution of their output has necessitated by the cancellations, have been made by the mills.

Old Metals.

Wholesale quotations in the Chicago district which should be considered as nominal are as follows: old steel axles \$33.00 to \$34.00; old iron axles, \$41.00 to \$42.00; steel springs, \$24.50 to \$25.00; No. 1 wrought iron \$21.00 to \$21.50; No. 1 cast, \$30.50 to \$31.00; all per net tons. Prices for non-ferrous metals are quoted as follows, per pound: Light copper 11½ cents; light brass, 7 cents; lead, 6 cents; zinc, 4½ cents; cast aluminum, 15 cents.

Pig Iron.

Although actual market quotations on pig iron are still on the old basis, the fact remains that so far as actual values are concerned, it must be conceded that pig iron is down. There are rumors which can be traced to authoritative sources that several offers of basic iron have been made in a quiet way at 4.50 cents lower than the nominal market figure of \$48.50 Valley.

It is also predicted that when the basic pig iron market does become quotable on the strength of actual sales it will be on a much lower level than \$48.50 Valley, which is equivalent to \$50.46 Pittsburgh. In fact, there are those who say that the decline will be not less than \$5 per ton.

There is this point, however, to consider in this connection, that the higher transportation rates which are now being paid to carriers will have some tendency to retard the lower price movement, and it should also be kept in mind that a sale of a lot of pig iron at a cut price by a factor who is not a producer does not necessarily make a reduced market quotation, because the principle in quoting markets is to show that iron can be bought at a certain figure. If the man who has sold his surplus lot at a cut price it may be a very difficult matter for any one else to obtain any more pig iron at that particular price, so that the price at which he sold it, does not in any sense represent the market situation.

The production of pig iron in September amounted to 3,129,323 tons, as compared with 3,147,402 for the month of August. With the exception of March of this year, last month's daily rate of production was the greatest since February, 1919, and it is anticipated that the output in October will exceed that of September. There were 18 furnaces blown in and 10 banked, leaving 319 active at the beginning of October, with an estimated capacity of 106,220 tons a day.

Current Hardware and Metal Prices.

AMERICAN ARTISAN AND HARDWARE RECORD is the only publication containing Western Hardware and Metal prices corrected weekly.

The prices and discounts quoted on this and the following pages, are, for the most part, subject to change without notice. Owing to the unsettled condition of the markets and the shortage of materials it is practically impossible for any manufacturer to guarantee his price for any given length of time.

METALS		TIN.	AUGERS.	BEATERS.
PIG IRON.		Pig tin 46% Bar tin 48%	Boring Machine..... 40 @ 40 & 10% Irwin's 25% Carpenter's Nut 50%	Carpet. Per doz. No. 7 Tinned Spring Wire.. \$1 10 No. 8 Spring Wire cop- ered 1 50 No. 9 Preston 1 75
Southern Fdy. No. 2	48 67		Hollow.	Egg. Per doz. No. 50 Imp. Dover..... \$1 10 No. 102 " " Tinned 1 25 No. 150 " " hotel.. 2 10 No. 10 Heavy hotel tinned 2 10 No. 13 " " " 2 20 No. 15 " " " 2 50 No. 18 " " " 4 50
Lake Sup. Charcoal.	58 50		Bonney's..... per doz. 30 00	
Malleable	46 70		Post Hole.	
Foundry	46 70		Iwan's Post Hole and Well... 30% Vaughan's, 4 to 9 in. per doz. \$14 00	
FIRST QUALITY BRIGHT TIN PLATES.	Per box			
IC 14x20.... 112 sheets	\$16 50	CARPENTERS'.	Ship.	
IX 14x20.....	18 25	Plumbs	Ford's, with or without screw Net list	
IXX 14x20.....	19 75	COOPERS'.		
IXXX 14x20.....	21 15	Barton's Net	AWLS.	
IXXXX 14x20.....	22 50	White's Net	Brad.	
IC 20x28.....	33 00	Railroad.	No. 3 Handled... per doz. \$8 65 No. 1050 Handled " 1 40 Shouldered, assorted 1 to 4, Pergro. 4 00	
IX 20x28.....	36 50	Plumbs	Patent asst'd, 1 to 4 " 35	
IXX 20x28.....	39 50			
IXXX 20x28.....	42 25	AMMUNITION.		
IXXXX 20x28.....	45 00	SHells, LOADED, Peters.		
COKE PLATES.		Loaded with Black Powder, Less 18%	Harness.	
Cokes, 180 lbs.... 20x28	\$22 35	Loaded with Smokeless Powder, medium grades, Less 18%	Common " 1 05 Patent " 1 00	
Cokes, 200 lbs.... 20x28	22 70	Loaded with Smokeless Powder, high grade, Less 18%	Peg.	
Cokes, 214 lbs.... IC 20x28	23 55	Winchester.	Shouldered " 1 00 Patented " 75	
Cokes, 270 lbs.... IX 20x28	27 40	SMOKELESS REPEATER GRADE.		
BLUE ANNEALED SHEETS.		Smokeless Repeater Grade, Less 15%	Scratch.	
Base per 100 lbs. \$7 15		Smokeless Leader Grade Less 15%	No. 18, socket handled per doz. 2 50	
ONE PASS COLD ROLLED BLACK.		Black Powder..... Less 15%	No. 344 Goodell- Pratt, List, less..... 35-40% No. 7 Stanley..... " 2 25	
No. 18-20..... per 100 lbs. \$7 90		U. M. C.		
No. 22-24..... per 100 lbs. 7 95		Nitro Club..... 18% Arrow 18% New Club..... 18%		
No. 26..... per 100 lbs. 8 00		GALVANIZED.		
No. 27..... per 100 lbs. 8 05		Gun Wads—per 1000.		
No. 28..... per 100 lbs. 8 10		Winchester 7-8 gauge 10&7½% " 9-10 gauge 10&7½% " 11-12 gauge 10&7½%	First Quality, Single Bitted, 3 to 4 lb., per doz. 16 50 First Quality, Double Bitted per doz. 22 50	
No. 29..... per 100 lbs. 8 20		Powder		
KEYSTONE HAMMERED POLISHED STEEL.		DuPont's Sporting, kegs.. \$11 25 " " ¼ kegs 3 10 DuPont's Canisters, 1-lb... 56 " Smokeless, drums 43 50 " " kegs.. 22 00 " " ¼ kegs... 5 75 " canisters 1 00	BROAD.	
Discontinued. New product will be announced later.		Hercules "E.C." and "In- fallible", 50 can drums.. 43 50 Hercules "E.C.", kegs..... 22 50 Hercules "E.C.", ¼-kegs... 11 25 Hercules "Infallible", 25-can drums 22 00 Hercules "Infallible", 10 can drums 9 00 Hercules "E.C.", ¼-kegs... 5 75 Hercules "E.C." and "In- fallible", canisters 1 00	Plumbs, West, Pat..... List " Can. Pat..... \$69 00 Firemen's (handled), per doz. 21 00	
BAR SOLDER.		Hercules W. A. .30 Cal. Rifle, canisters 1 25 Hercules Lightning Rifle, canisters 1 25 Hercules Sharpshooter Rifle, canisters 1 25	SINGLE BITTED (WITHOUT HANDLES).	
Warranted,		Hercules Unique Rifle, can- isters 1 50 Hercules Bullseye Revolver, canisters 1 00	Warren Silver Steel. application Warren Blue Finished "	
50-50 per 100 lbs. \$30 50				
Commercial,			DOUBLE BITTED (WITHOUT HANDLES).	
45-55 per 100 lbs. 28 50			Warren's Natl. Blue, 3½ to 4½ lb. Prices on application The above prices on axes of 3 to 4 lbs. are the base prices.	
Plumbers' per 100 lbs. 26 50				
ZINC.				
In slabs \$8 20				
SHEET ZINC.				
Cask lots 15c				
Less than cask lots... 15½-15¾c				
COPPER.				
Copper Sheet, mill base.... 29 ½c				
LEAD.				
Solid Wrought.... 28 & 28 ½ per lb.				
American Pig \$ 8 25				
Bar 8 75				
Sheet.				
Full coils per 100 lbs. \$11 50				
Cut coils per 100 lbs. 11 75				
HARDWARE				
ADZES.				
Carpenters'.				
Plumbs	Net			
Coopers'.				
Barton's Net				
White's Net				
Railroad.				
Plumbs	Net			
AMMUNITION.				
SHells, LOADED, Peters.				
Loaded with Black Powder, Less 18%				
Loaded with Smokeless Powder, medium grades, Less 18%				
Loaded with Smokeless Powder, high grade, Less 18%				
Winchester.				
Smokeless Repeater Grade, Less 15%				
Smokeless Leader Grade Less 15%				
Black Powder..... Less 15%				
U. M. C.				
Nitro Club..... 18% Arrow 18% New Club..... 18%				
GALVANIZED.				
Gun Wads—per 1000.				
Winchester 7-8 gauge 10&7½% " 9-10 gauge 10&7½% " 11-12 gauge 10&7½%				
Powder	Each			
DuPont's Sporting, kegs.. \$11 25 " " ¼ kegs 3 10 DuPont's Canisters, 1-lb... 56 " Smokeless, drums 43 50 " " kegs.. 22 00 " " ¼ kegs... 5 75 " canisters 1 00				
Hercules "E.C." and "In- fallible", 50 can drums.. 43 50 Hercules "E.C.", kegs..... 22 50 Hercules "E.C.", ¼-kegs... 11 25 Hercules "Infallible", 25-can drums 22 00 Hercules "Infallible", 10 can drums 9 00 Hercules "E.C.", ¼-kegs... 5 75 Hercules "E.C." and "In- fallible", canisters 1 00				
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Less than cask lots... 15½-15¾c				
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Bar 8 75				
Sheet.				
Full coils per 100 lbs. \$11 50				
Cut coils per 100 lbs. 11 75				
HARDWARE				
ADZES.				
Carpenters'.				
Plumbs	Net			
Coopers'.				
Barton's Net				
White's Net				
Railroad.				
Plumbs	Net			
AMMUNITION.				
SHells, LOADED, Peters.				
Loaded with Black Powder, Less 18%				
Loaded with Smokeless Powder, medium grades, Less 18%				
Loaded with Smokeless Powder, high grade, Less 18%				
Winchester.				
Smokeless Repeater Grade, Less 15%				
Smokeless Leader Grade Less 15%				
Black Powder..... Less 15%				
U. M. C.				
Nitro Club..... 18% Arrow 18% New Club..... 18%				
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Gun Wads—per 1000.				
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Powder	Each			
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SHEET ZINC.				
Cask lots 15c				
Less than cask lots... 15½-15¾c				
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American Pig \$ 8 25				
Bar 8 75				
Sheet.				
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HARDWARE				
ADZES.				
Carpenters'.				
Plumbs	Net			
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Barton's Net				
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AMMUNITION.				
SHells, LOADED, Peters.				
Loaded with Black Powder, Less 18%				
Loaded with Smokeless Powder, medium grades, Less 18%				
Loaded with Smokeless Powder, high grade, Less 18%				
Winchester.				
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GALVANIZED.				
Gun Wads—per 1000.				
Winchester 7-8 gauge 10&7½% " 9-10 gauge 10&7½% " 11-12 gauge 10&7½%				
Powder	Each			
DuPont's Sporting, kegs.. \$11 25 " " ¼ kegs 3 10 DuPont's Canisters, 1-lb... 56 " Smokeless, drums 43 50 " " kegs.. 22 00 " " ¼ kegs... 5 75 " canisters 1 00				
Hercules "E.C." and "In- fallible", 50 can drums.. 43 50 Hercules "E.C.", kegs..... 22 50 Hercules "E.C.", ¼-kegs... 11 25 Hercules "Infallible", 25-can drums 22 00 Hercules "Infallible", 10 can drums 9 00 Hercules "E.C.", ¼-kegs... 5 75 Hercules "E.C." and "In- fallible", canisters 1 00				
KESYONE HAMMERED POLISHED STEEL.				
Discontinued. New product will be announced later.				
BAR SOLDER.				
Warranted,				
50-50 per 100 lbs. \$30 50				
Commercial,				
45-55 per 100 lbs. 28 50				
Plumbers' per 100 lbs. 26 50				
ZINC.				
In slabs \$8 20				
SHEET ZINC.				
Cask lots 15c				
Less than cask lots... 15½-15¾c				
COPPER.				
Copper Sheet, mill base.... 29 ½c				
LEAD.				
Solid Wrought.... 28 & 28 ½ per lb.				
American Pig \$ 8 25				
Bar 8 75				
Sheet.				
Full coils per 100 lbs. \$11 50				
Cut coils per 100 lbs. 11 75				
HARDWARE				
ADZES.				
Carpenters'.				
Plumbs	Net			
Coopers'.				
Barton's Net				
White's Net				
Railroad.				
Plumbs	Net			
AMMUNITION.				
SHells, LOADED, Peters.				
Loaded with Black Powder, Less 18%				
Loaded with Smokeless Powder, medium grades, Less 18%				
Loaded with Smokeless Powder, high grade, Less 18%				
Winchester.				
Smokeless Repeater Grade, Less 15%				
Smokeless Leader Grade Less 15%				
Black Powder..... Less 15%				
U. M. C.				
Nitro Club..... 18% Arrow 18% New Club..... 18%				
GALVANIZED.				
Gun Wads—per 1000.				
Winchester 7-8 gauge 10&7½% " 9-10 gauge 10&7½% " 11-12 gauge 10&7½%				
Powder	Each			
DuPont's Sporting, kegs.. \$11 25 " " ¼ kegs 3 10 DuPont's Canisters, 1-lb... 56 " Smokeless, drums 43 50 " " kegs.. 22 00 " " ¼ kegs... 5 75 " canisters 1 00				
Hercules "E.C." and "In- fallible", 50 can drums.. 43 50 Hercules "E.C.", kegs..... 22 50 Hercules "E.C.", ¼-kegs... 11 25 Hercules "Infallible", 25-can drums 22 00 Hercules "Infallible", 10 can drums 9 00 Hercules "E.C.", ¼-kegs... 5 75 Hercules "E.C." and "In- fallible", canisters 1 00				
KESYONE HAMMERED POLISHED STEEL.				
Discontinued. New product will be announced later.				
BAR SOLDER.				
Warranted,				
50-50 per 100 lbs. \$30 50				
Commercial,				
45-55 per 100 lbs. 28 50				
Plumbers' per 100 lbs. 26 50				
ZINC.				
In slabs \$8 20				
SHEET ZINC.				
Cask lots 15c				
Less than cask lots... 15½-15¾c				
COPPER.				
Copper Sheet, mill base.... 29 ½c				
LEAD.				
Solid Wrought.... 28 & 28 ½ per lb.				
American Pig \$ 8 25				
Bar 8 75				
Sheet.				
Full coils per 100 lbs. \$11 50				
Cut coils per 100 lbs. 11 75				
HARDWARE				
ADZES.				
Carpenters'.				
Plumbs	Net			
Coopers'.				
Barton's Net				
White's Net				
Railroad.				
Plumbs	Net			
AMMUNITION.				
SHells, LOADED, Peters.				
Loaded with Black Powder, Less 18%				
Loaded with Smokeless Powder, medium grades, Less 18%				
Loaded with Smokeless Powder, high grade, Less 18%				
Winchester.				
Smokeless Repeater Grade, Less 15%				
Smokeless Leader Grade Less 15%				
Black Powder..... Less 15%				
U. M. C.				
Nitro Club..... 18% Arrow 18% New Club..... 18%				
GALVANIZED.				
Gun Wads—per 1000.				
Winchester 7-8 gauge 10&7½% " 9-10 gauge 10&7½% " 11-12 gauge 10&7½%				
Powder	Each			
DuPont's Sporting, kegs.. \$11 25 " " ¼ kegs 3 10 DuPont's Canisters, 1-lb... 56 " Smokeless, drums 43 50 " " kegs.. 22 00 " " ¼ kegs... 5 75 " canisters 1 00				
Hercules "E.C." and "In- fallible", 50 can drums.. 43 50 Hercules "E.C.", kegs..... 22 50 Hercules "E.C.", ¼-kegs... 11 25 Hercules "Infallible", 25-can drums 22 00 Hercules "Infallible", 10 can drums 9 00 Hercules "E.C.", ¼-kegs... 5 75 Hercules "E.C." and "In- fallible", canisters 1 00				
KESYONE HAMMERED POLISHED STEEL.				
Discontinued. New product will be announced later.				
BAR SOLDER.				
Warranted,				
50-50 per 100 lbs. \$30 50				
Commercial,				
45-55 per 100 lbs. 28 50				

BLACKING, STOVE, (See Polish)	Well.	Picture Chains.	Saw Filers.
	Oak, Wrought Iron Riveted Top Ears.....per doz. \$8 00	Light Brass, 3 ft., per doz. \$1 25 Heavy Brass, 3 ft. " 1 75	Wentworth's, No. 1, \$12.50; No. 2, \$18.25; No. 3, \$16.25.
BLADES, SAW.	BURRS, RIVETING.	Sash Chain.	CLAWS, TACK.
Butchers'.	Copper Burrs only...25% above list	(Morton's) Steel, per 100 ft.	Wood hd. No. 10...per doz. \$0 95 Forged steel, wood hdle. " 1 75
Standard, 1/4 & 1 1/4-in....Nets	Tinners' Iron Burrs only....30%	0.....\$2 50 2.....3 10 1.....3 40	Solid steel....." 2 40 Giant " 50
Clock Spring..... "		Champion Metal.	
Star		0R.....5 40 2R.....5 60 1R.....7 75	CLEANERS.
Hack.	BUTTS.	Cast Iron.....7 1/2 %	Drain.
Atkins 5% Star Nets		Wrought Brass (New List) Plus 5% Wrought Steel, Bright....40% Wrought Steel, Japanned,	Iwan's Adjustable.....35% Iwan's Stationary.....30%
Wood.		Cast Iron.....7 1/2 %	
Dingston Nos. 6 85 26 " 33 00 38 50 38 00		Wrought Metal.—Extra Heavy. 1H.....9 50	
Atkins Nos. 2 14 18 " 22 85 28 50 24 75		Cable Sash Chains.	Pot.
BLOCKS.	CALIPERS.	Steel.....List Net Plus 15%	Wireper doz. \$0 75
Wooden 20% Patent 30%	DoubleNets Inside and Outside. " Wing "	Blueper gro. \$1 40 Red " 1 40 White " 1 25 Common White School Crayon 25c	Side-Walk. Steel.....per doz., Net prices
BOARDS.	CALKS	CHALK, CARPENTERS'.	CLEAVERS.
Steve.	Logger's Boot. (Lufkin R. Co.'s), per M. \$7 00	In bags.....per bag \$1 70	Family.
Wabash Crystal.....Net Prices Wabash Art Inlay...." Wabash Embossed.... "	Toe.	CHIMNEY TOPS.	Beatty's, inch....7 8 9 10 Per doz. \$27 00 29 00 33 00 36 00
Wash.	Blunt and medium, 1 prong, per 100 lbs.....\$6 20 Sharp, 1 prong, per 100 lbs 6 70	CHECKS, DOOR.	CLEVISES.
No. 760, Banner Globe, (single)per doz. \$5 25 No. 652, Banner Globe, (single)per doz. 6 75 Mo. 801, Brass King per doz. 8 25 No. 880, Single—Plain Pump 6 25		Corbin.....Net List Russwin.....20%	Malleable10c lb.
BOLTS.	CANS.	CHEEKS, DOOR.	CLIPPERS.
Carriage, Machine, etc.	Milk.	Iwan's Volcano.....35%	Holt\$2 25 & 6 00
Carriage, cut thread, 5/16 and sizes smaller and shorter40 & 10%	Elgin. Gals. 5 8 10 Each \$4 00 \$5 15 \$5 15	CHISELS.	
Carriage, sizes larger and longer than 5/16.....+15%	Iowa Patterns. Gals. 5 8 10 Each \$4 00 \$5 15 \$5 15	Box.	Axle65 & 5%
Machine, 5/16 and sizes smaller and shorter.....50%		Inches.....12 14 Round, per doz. \$5 25 5 75 Flat, per doz. 7 25 8 25	Damper.
Machine, sizes larger and longer than 5/16.....40%		Cold.	Standardper doz. 7 25 Troy " 3 25
Stove50-10%	CAN OPENERS.	Good quality, 5/16 in. and largerNets	Name " 50c
Tire40-5%	See Openers.	Smaller size, per doz.Nets	CLOTH.
Mortise, Door.	CAPS, GUN.	Socket, Firmer.	Emery.
Gem, iron.....5% Gem, bronze plated.....5%	See Ammunition.	Ohio.....Price on Application	StarNew Prices B. & A. "
Barrel.	CARPET STRETCHERS.	Socket, Framing.	Hardware Wire—
CastNets Wrought "	See Stretchers.	Ohio.....Price on Application	Full rolls (100 ft.) application
Wrought, bronzed		Tanged, Firmer.—Barton's With handles.....Net list	12 Mesh, galvanized " "
Flush.	CARRIERS.	Choppers, See Cutters, Meat.	14 " " "
Wrought		CHUCKS, DRILL.	16 " " "
Spring.	Hay.	Goodell's, for Goodell's Screw DriversList less 35-40% Yankee, for Yankee Screw Drivers \$6 00	18 " " "
Wrought "	Diamond, Regular...each, Nets Diamond, Sling..... "	CHURNs.	Screen WIRE. Prices on application
Wrought, heavy..... "		Anti-Bent Wood.	12 mesh, painted, per 100 sq. ft.
Square.	CARTRIDGES.	Gal. 5 7 10 Each \$3 50 4 60 4 85	COLLARS, STOVE PIPE.
Wrought	See Ammunition.	Belle, Barrel65 & 7 1/2 %	Lacquered.
BORERS.		Common Dash.	Inches 5 6 7 Fancy pattern, per doz. 80c 85c \$1 15
Angular.	CASTERS.	Gal. 5 7 Per doz. 17 00 19 00	COMPASSES.
Miller's Falls....per doz. \$23 00 Sill borers, No. 51 " 34 00 " 52 " 39 50	Standard—Ball Bearing.	Pointed Roofing.	
Bung.		Gal. 5 7 10 Each \$3 50 4 60 4 85	lb. and heavier....per lb. 37c
Doz.	Bed40%	Belle, Barrel65 & 7 1/2 %	2 lb. " 32c
Enterprise Mfg. Co.'s No. 1, 10% " " " No. 2, 10%	Common Plate.	Common Dash.	3 lb. " 37c
BOXES.	Brass Wheel.....15% Iron and porcelain wheels, new list50% Philadelphia Plate, new list50% Martin's40%	Gal. 5 7 Per doz. 17 00 19 00	4 lb. " 40c
Mail, No. 2 4 10 Per doz. \$18 00 23 00 29 00	Adjustable.	Pointed Roofing.	4 lb. " 48c
Mitre.	CATCHERS, GRASS.	Martin's30% No. 63, Screw20%	lb. and heavier....per lb. 37c
Stanley'sNet Prices Stearns, No. 2...per doz. \$48 00	No. 160S, per doz. \$12 25 No. 165S, " 14 01	Cabinet.	Picture.
BRACES.	CEMENT, FURNACE.	Screw20%	White Wire.....80 & 5%
Fray's Genuine Spofford's " " " 20 & 10% Fray's No. 08 \$7 50 " " " No. 010 8 00	American Seal, 5 lb. cans, net \$0 45 " " " 10 lb. cans, " 90 " " " 25 lb. cans, " 1 87 Pecora, 5 lb. cans..... 45 " " " 10 lb. cans, " 90 " " " 25 lb. cans, " 1 87	Carriage Makers'.	Sash.
BRACKETS.	BREAST CHAINS.	2 1/2 "per doz. \$7 00 5 " " 14 00 8 " " 28 00 12 " " 46 00	Sampson Spot, No. 7, per doz. \$24 50
May Back.		Quilt Frame.	Sampson Spot, No. 7, per doz. \$29 40
Wenzelmann's No. 1, per doz. sets.....\$18 00 Wenzelmann's No. 2, per doz. sets..... 18 20	With Slide...doz. pairs, \$ 5 50 Without Slide. 5 06 Doubleslack.... 9 35 With Covert Snaps " 6 38	No. 30 Ball and Socket, 2 1/2 " head.....per gross \$13 00 No. 50, Ball and Socket, 3 1/2 " head.....per gross 14 50	All sizes.....37 1/2 %
Wheelf.		Hose.	COUPLINGS, HOSE.
Wrought Steel.....40%		Sherman's, brass, 5/16-in., per doz. 48c	Brassper doz. \$2 25
		Double, brass, 5/16-in., per doz. 1 20	COVERS, WAGON.—See Tents.
		Morgan's Grapevine per doz. \$65 00	CRADLES, GRAIN.

CRAYONS —See Chalk.	ELBOWS —Conductor Pipe.	WOOD PAILS .	HANGERS .	
CUTTERS .	Galvanized Steel, Tin and Terne, Round Corrugated.	Frazer's, 15lb \$1.00; 25lb \$1.50 each.	Barn Door.	
Glass.	Size.	Hub Lightning, 15lb 90c; 25lb \$1.21 each.	U. S. Roller Bearing....12½%	
Woodward	2-inch	50%	Matchless	12½%
Meat.	3-inch	50%	Warehouse Tandem, No. 44	33½%
Enterprise—Nos. 5 10 12	4-inch	50%	Conductor P.	
Each.... \$2 50 \$4.25 \$3 75	5-inch	50%	Iwan's Perfection.....45%	
Nos. 22 32	6-inch	50%	Eave Trough.	
Pipe. " 6 50 8 50	EMERY, TURKISH.	All sizes, 5" or smaller, per gross \$3 80 Net		
Saunders', No. 1 2 3	Out of market at present time.	All sizes, larger than 5", per gross, 5 00 "		
Each \$1 85 2 75 6 75	Domestic, lb. 11½c	Garage Door.		
Slaw and Kraut. Per doz.	EYES.	Right Angle 50&10%		
4-knife Kraut....\$20 00-55 00	Bright Wire Screw—See Woods, B. W.	Sliding Folding 50%		
3-knife Kraut, 8x27 in. 13 00-18 00	Drifting Pick 60, 10 & 5%	Receding 50%		
1-knife Slaw 2 50	Hooks and Eyes.	Parlor Door.		
2-knife Slaw 3 00	Brass, 1½" No. 60, per gross \$2 50	Acme per set, \$3 75		
Washer 11 00	Iron, 1½" No. 60, per gross 1 60	Ives' Improved 3 40		
DAMPERS, STOVE PIPE.	FASTENERS, STORM SASH.	Lane's Standard... " 3 50		
Diamond	Shroeder's.....per doz. \$1 50	Lane's New Model " 3 10		
All sizes....40% from New List	Sensible..... " 3 00	Le Roy Noiseless.....40&10%		
DIES AND STOCKS	FILES AND RASPS.	Richards 25%		
Discount.....New List	Delta 30%	Advance 40&10%		
DIGGERS	Swiss.....List plus 25%	HASPS.		
Post Hole	Utility..... " net.	Hinge, Wrought, Add 50% to list With Staples—See Staples.		
Eureka.....per doz. \$14 50	NICHOLSON'S —	HATCHETS.		
Iwan's Split Handle (Eu-reka)	American 5-10%	Crescent 50%		
4-ft. Handle..per doz. 15 00	Arcade 50-10-7½%	Cast Claw....per doz. \$1 50 @ 1 85		
7-ft. " ..per doz. 20 00	Black Diamond 40-10%	Cast Shingling " 1 50 @ 1 85		
Iwan's Perfection (Atlas) per doz. 16 50	Eagle 50-10-7½%	Germantown 7½%		
Iwan's Hercules pattern per doz. 18 00	Great Western 50-10-7½%	HAY KNIVES.		
See also Augers—Post Hole.	Kearney & Foot 50-10-7½%	See Knives.		
Dividers, Wing 25%	McClellan 50-10-7½%	HAY RACK BRACKETS.		
DOOR CHECKS —See Checks	Nicholson brand 40-10-5%	Wenzleman's No. 1 per doz. sets, \$18 00		
DOORS, SCREEN	J. Barton Smith 50&2½%	Wenzleman's No. 2 per doz. sets, 19 20		
¾-in. 4-panel, painted Net Prices	X-F Swiss Pattern....Net List	HAMMERS, HANDLED.		
1½-in. 4-panel, painted "	Simonds' 50%	each, net.		
1½-in. 3-panel, natural pine, fancy " "	Distason's 50%	Blacksmiths, Hand, No. 0, 26 oz. \$1 35		
DOOR HANGERS —See Hangers	Heller's 60&10%	Engineers', No. 1, 26 oz. 1 35		
DRILLS	FIRE POTS.	Farriers', No. 6, 7 oz. 1 41		
Blacksmiths' Twist. (New List) 40%	Clayton & Lambert's—	Machinists', No. 1, 7 oz. 1 06		
Breast.	each \$4 00 @ 6 00	Nail.		
Millers Falls No. 12, each \$46 00	Gate City.....each, 6 25	Vanadium, No. 41½, 16 oz., each \$2 00		
" " 112, " 26 00	Gem each, \$6 75 @ 8 50	V. & B., No. 11½, 16 oz., each 1 60		
Hand.	FORKS.	Garden City, No. 111½, 16 oz., each 1 35		
Goodell's Automatic. Nos. 01 03	Barley.	Tanner's Riveting, No. 1, 8 oz., each 1 10		
Per doz. 12 00 14 40	Steel, new list.....New Prices	Shoe, Steel, No. 1, 13 oz., each 1 00		
Goodell's Single Gear, per doz. 15 75	Hay.	Tack.		
Goodell-Pratt No. 4½ per doz. list, less 30%	2-tine.....New prices	Magnetic.		
Goodell-Pratt No. 379 per doz. list, less 30%	3-tine.....New prices	No. 5, each.....\$1 00		
Reciprocating.	4- " ..New prices	HAMMERS, HEAVY.		
Goodell's.....per doz. 26 00	FREEZERS—ICE CREAM	Heavy Hammers and Sledges.		
DRIVERS, SCREW	Manure.	Under 5 lbs. 45%		
Standard Nets	4-tine.....New prices	5 lbs. and over 45%		
Lock Ferrule	GAUGES.	Masons'.		
Champion	Cream Pall.	Single and Double Face....50%		
Champion Pattern	Fairmount..... per doz. \$3.75	HANDLES.		
Clark's Interchangeable ..	MARKING, MORTISE, etc.	Auger.		
Edison	Discount 35 @ 40%	Common Assorted per doz. \$0 75		
Reed's Lightning	WIRE.	Pratt's Adjustable, Nos. 1 & 2, per doz. 6 00		
Goodell's Spiral	Discount 35 @ 40%	Ives' Adjustable.....per set, 1 35		
Yankee Ratchet	GIMLETS.	AXE.		
" Spiral	Bulk.	Chisel.		
EAVES, TROUGH	B. Amber.....per lb. 35c	Hickory, Tanged, Firmer, Assorted, 55c; Large, 85c per doz.		
50% off Standard List.	A White..... " 40c	Hickory, Socket Firmer, Assorted, 70c; Large size, 80c per doz.		
ELBOWS —Stove Pipe	H. S. Amber..... " 32c	Coal Pick		
1-piece Corrugated, Uniform	LIQUID.	Drifting Pick		
Doz.	Army & Navy..... 40%	File, assorted, 30c; Large, 35c per doz.		
6-inch	Le Page's—	Hammer.		
6-inch	List "A"..... 37½%	Adze Eye...per doz. 40c to \$1 00		
7-inch	List "B"..... 33½%	Blacksmiths' " 45c @ 1 00		
Uniform, Collar, Adjustable	List "C"..... 25 %	Machinists' " 50c @ 1 00		
Doz.	GREASE, AXLE.	GLUE.		
6-inch	B. Amber.....per lb. 35c	Screw Driver.		
6-inch	A White..... " 40c	Assorted		
6-inch	H. S. Amber..... " 32c	Large		
7-inch	WOOD BOXES.	Hay and Manure Fork.		
7-inch	Army & Navy..... 40%	25%		
7-inch	Le Page's—	SHOVEL AND SPADE.		
7-inch	List "A"..... 37½%	Screw Driver.		
7-inch	List "B"..... 33½%	Assorted		
7-inch	List "C"..... 25 %	Large		
7-inch	HOOKS.	Shovel and Spade.		
7-inch	Hub Lightning	25%		
7-inch	7 50	See Stops, Bench.		

PAPERS.	FENCING.	PUNCHES.	SAWS.
Apple.	Black Bull All Nets	Conductors.	Band.
Goodell's per doz. \$10.80	Farmers' Choice All Nets	No. 22 per doz. \$3.00	E. C. Atkins & Co.
Turntable " 11.40	Russell's All Nets	Machin per lb. 25 Prices on applic'n
White Mountain... " 8.40		Saddlers'.	Douston's Prices on applic'n
Reading, No. 78... " 11.40	Flat and Round Nose.	Common.... per doz. 1.50 to 5.00	Buck.
Potato.	Bernard's New Prices	Revolving Spring.	Douston's Prices on applic'n
Goodsell's Saratoga, 10½ in., doz. 6.50	Lodi New Prices	Stearns, No. 10.... per doz. \$8.00	Jackson's New nets
Goodsell's Saratoga, 5 in., doz. 5.50	Paragon New Prices	" No. 40. " 16.00	
		" No. 60. " 19.00	
PICKS.	TINNERS'.		
Adze Eye Ore..... 22½%	Hollow Net List	PUTTY.	
Drifting and Poll Picks.... 22½%	Solid each, 10c	Strictly pure.... per 100 lbs. \$6.00	
Plumbs, Railroad 22½%			
Surface 22½%		RAIL.	
PINCERS.	PLUMBS AND LEVELS.	Barn Door.	
Carpenters', cast steel.	Common Nets	Matchless, 1-in. 5c	
No. 6 8 10 12	Cook's 40%	Matchless, 1¼-in. 7c	
Each. \$0.63 .80 1.05 1.15	Davis' Iron..... 25%	Storm King 5c	
Blacksmiths' 45%	Davis' Inclinometer..... 15%		
Heller's 40%		SLIDING DOOR.	
PINS	POINTERS, SPOKE.	Bronzed wrought iron, per ft. 8½c	
Clothes.	Stearns' No. 1..... per doz. \$10.00		
Common... per box of 5 gro. \$0.95	" No. 2..... 12.00	RAKES.	
Picket.	Wr't Steel, str't or bent, per doz. \$0.75	Garden.	
Fluter, 15-in..... per doz. \$1.10	Nickel Plated, coil han'l's " 1.10	Steel, Bow, 12-in. Teeth... \$8.50	
Fluted, 21-in..... " 1.60		Steel, Bow, 14-in. 9.25	
Spiral " 1.90		Malleable Iron, 12-in. 4.75	
PIPE.		Malleable Iron, 14-in. 5.00	
Conductor.	Metal.		
Plain Round and Round Corru-gated.	Wizard, 6-oz... per gross \$18.00	RASPS—See Files.	
29 Gauge 50%	" ½-pt.. " 20.40	RAZORS—SAFETY.	
28 " 40%	" 1-pt.. " 36.00	Gillette per doz. \$45.00	
26 " 30%	" 1-qt.. " doz. 6.00	Auto Strop 45.00	
24 " List	" ½-gal.. " 10.80	Gem (3 doz. lots) ... 8.00	
Square Corrugated A and B and Octagon.	" 1-gal.. " 18.60	Ever Ready 8.40	
29 Gauge 40%		Ever Ready (3 doz. lots) " 8.00	
28 " 35%	STOVE.		
26 " 25%	Black Eagle Paste 5-oz... \$13.80	Star (Honing) 50%	
24 " List	" " " ½-lb. 17.40	REGISTERS.	
Galvanized Toncan Metal, Genuine O. H. Iron, Lyonore Metal, Charcoal Iron and Keystone C. B.	" " " 1-lb. 31.20	Cast Iron List	
Plain Round and Round Corru-gated.	" " " 5-lbs. 5.25	Steel and Semi-Steel 10%	
28 Gauge..... 40%	Black Eagle Liquid, 6-oz. per gross	Solid Brass or Bronze Metals prices on application	
26 " 30%	per case 15.60	Baseboard 10%	
24 " List	Black Kid Paste, 5 lbs. per case 6.00	Adjustable Ceiling Ventilators 10%	
Square Corrugated A and B Poly-gon and Octagon.	Black Jack Liquid, ½-pt. per gross	REGISTER FACES.	
28 Gauge..... 35%	Black Jack Paste, No. 10, per gross	Japanned, Bronzed and Plated, 4x8 to 14x14. 10%	
26 " 25%		14x14 to 38x42. 25%	
24 " List		REVOLVERS.	
Galvanized Toncan Metal, Genuine O. H. Iron, Lyonore Metal, Charcoal Iron and Keystone C. B.		Iver Johnson Safety Automatic Hammer New Nets	
Plain Round and Round Corru-gated.		Hammerless "	
28 Gauge..... 40%		I. J. Model 1900. "	
26 " 30%	POWDER.	RINGS AND RINGERS.	
24 " List	See Ammunition.	Bull.	
Square Corrugated A and B Poly-gon and Octagon.		Copper 2½-in. 3-in. Per doz. \$2.40 \$2.65	
28 Gauge..... 35%		Rea's Improved Self-Piercing copper, doz. 3.40	
26 " 25%		Steel, per doz. 1.50 1.80	
24 " List	PRESSES, FRUIT AND JELLY.	Hog.	
14 and 16-oz. Copper, all de-signs	Enterprise Manufacturing Co. 25%	Blair's Rings per doz. \$7.50	
		Brown's Rings. 1.00	
Portico Elbows.	PRIMERS.	Brown's Ringers. 72	
Galvanized and Terne Steel.	See Ammunition.	Hill's Ringers. 1.00	
1-inch 35%		Hill's Ring, boxes. 72	
1¼-inch 35%		Major Rings. 60	
1½-inch 35%		Perfect Ringers. 1.50	
2-inch 35%		Wolverine Rings. 1.65	
Tubing 25%		Wolverine Ringers. 1.10	
Discounts on Round apply on sizes 2-inch to 6-inch inclusive.	PULLERS.	FRUIT JAR.	
Freight allowed on 15 dozen or more, to all points where freight rate does not exceed \$1.00 per 100 lbs. Less than 15 dozen F. O. B. Factory.	Cork.	White per lb. 30c	
Terms: 30 days net, 2% ten days.	Daisy each, \$3.10		
Standard Gauge Conductor Pipe, plain or corrugated.	Phoenix 1.40	Key.	
Not Nested 35-5%	Quick and Easy ... 2.70	Split, round per doz. \$0.17	
Nested solid 40%		Split, square 32	
Stove.	Nail.	Ball, round 40	
Per 100 Joints	Giant per doz. \$14.50	RIVETS.	
29 Gauge, 3-inch..... \$19.00	Never-Slip 17.00	Copper Belt.... Add 15% to list	
" 4-inch..... 19.50		Coppered Iron 30%	
" 5-inch..... 20.25		Tinners' 30%	
" 6-inch..... 21.00	AWNING—Jap'd.	Hame per lb. \$0.17	
" 7-inch..... 23.00		Slotted Clinch.... per doz. 60@1.10	
T-Joint Made up.	Hay Fork.	Tubular.	
6-inch per 100 \$60.00	Iron Wheel, 5-in.. per doz. 2.50	Nos. 1 and 2 assorted sizes, 50 in box. doz. 75c	
Furnace Pipe.	Wood Wheel, 6-in. " 2.65	Nos. 1 and 2 assorted sizes, 10 in box. doz. 1.40	
Double Wall Pipe and Fit-tings 15%	Wood Wheel, 6-in., pass knot.... 3.00	RIVET SETS.	
Single Wall Pipe, Round Pipe Fittings 15%	SASH.	See Sets.	
Galvanized and Black Iron Pipe, Shoes, etc..... 10%	Common Net	ROPE.	
PLANES.	Common-Sense, 2-in..... Net	Cotton.	
Stanley Iron Bench..... net	Empire Pattern, 2-in..... Net	¾, 5-16 in. Com. on reels, per lb. 85c	
	Ideal Net	¾, 5-16 in. Com. in coils, per lb. 85c	
	Steel Net	Size.	
PLATES, TIN.		1st Qualit. 18½c	
See Metals in Column 1.	PUMPS.	No. 2 17½c	
PLIERS.	Pitcher Spout.	Pure Manila.	
Giant, Button's—Nets.	Nos. 1 2 3 4	1st Quality, base... per lb. 28½c	
Cutting.	Each Nets	Hardware Grade.... per lb. 27½c	
Bernard's New Prices	SPRAY.		
Lodi New Prices	Midget Junior..... per doz. 2.75	Prices on application	
Navagron New Prices	New Misty 6.00	Lufkin's Hickory Board.... "	
	Crescent 6.50	Lufkin's Log "	
		Lufkin's Boxwood "	
		Lufkin's Zigzag "	
			SCYTHES.
			Clipper, Grass ... per doz. \$13.40
			Honest Dutchman. 18

ADVERTISERS' INDEX

CLASSIFIED INDEX

ALPHABETICAL LIST

American Furnace Co.	8	Elevators.	Kimball Bros. Co., Council Bluffs, Iowa	Machines—Crimping.
American Sheet & Tin Plate Co.	51	Enamel—Iron.	Black Silk Stove Polish Works, Sterling, Ill.	Bertsch & Co., Cambridge City, Ind.
American Steel & Wire Co.	57	Nickel Plate Stove Polish Co., Chicago, Ill.	Niagara Machine & Tool Works, Buffalo, N. Y.	
Berger Bros. Co.	53	Enamelware	Lalance & Grosjean Mfg. Co., Chicago, Ill.	Machines—Razor Blades.
Bertsch & Co.	52	Auto Radiators	American Steel & Wire Co., Chicago, Ill.	Hyfield Mfg. Co., New York
Black Silk Stove Polish Works	13	Ball Ties.	Meyers Mfg. Co., Fred J., Hamilton, Ohio	Machines—Stove Pipe.
Brier Hill Steel Co.	51	Bolts and Nuts.	North Bros. Mfg. Co., Philadelphia, Pa.	Hemp & Co., St. Louis, Mo.
Bullard & Gormley Co.	59	Brakes—Bicycles.	Furnace Rings.	Machines—Tinsmiths'.
Central Stove & Furnace Repair Co.	13	Corbin Screw Corporation, New Britain, Conn.	Independent Reg. & Mfg. Co., Cleveland, Ohio	Bertsch & Co., Cambridge City, Ind.
Chatsworth Mfg. Co.	57	Dreis & Krump Mfg. Co., Chicago, Ill.	Dreis & Krump Mfg. Co., Chicago, Ill.	
Clark-Smith Hdw. Co.	53	Castings—Malleable	Hemp & Co., St. Louis, Mo.	
Clayton & Lambert Mfg. Co.	54	Ceilings—Metal.	Knoedler, Frederick J., Philadelphia, Pa.	
Cleveland & Buffalo Transit Co.	53	Chain—Furnace.	Niagara Machine & Tool Works, Buffalo, N. Y.	
Cleveland Castings Pattern Co.	13	Chaplets	Double Blast Mfg. Co., North Chicago, Ill.	
Coes Wrench Co.	56	Cleansers—Hand.	Quick Meal Stove Co., St. Louis, Mo.	
Co-operative Foundry Co.	7	Clips—Damper.	Guards—Fire.	
Corbin Screw Corporation	56	Corbin Screw Corporation, New Britain, Conn.	Meyers Mfg. Co., Fred J., Hamilton, Ohio	
Cortright Metal Roofing Co.	53	Cores—Radiator.	Handles—Boiler.	
Curfman Mfg. Co., F. L.	49	Dreis & Krump Mfg. Co., Chicago, Ill.	Berger Bros. Co., Philadelphia, Pa.	
Danville Stove & Mfg. Co.	6	Fannier Mfg. Co., Cleveland, Ohio	Heaters—School Room.	
Dianer Mfg. Co., G. W.	54	Haynes-Langenberg Mfg. Co., Milwaukee, Wis.	Hammond Heating Co., Cincinnati, Ohio	
Double Blast Mfg. Co.	54	Hess-Snyder Co., Cleveland, Ohio	Haynes-Langenberg Mfg. Co., St. Louis, Mo.	
Dreis & Krump Mfg. Co.	52	Howes Co., The S. M.	Meyer Furnace Co., Peoria, Ill.	
Enterprise Mfg. Co. of Pa.	55	Hussey & Co., C. G.	Monroe Fdy. & Furnace Co., Monroe, Mich.	
Fanner Mfg. Co.	13	Independent Register & Mfg. Co.	Heaters—Warm Air.	
Friedley-Voshardt Co.	53	Inland Steel Co.	American Furnace Co., St. Louis, Mo.	
Geroek Bros. Mfg. Co.	51	International Radiator Co.	Co-operative Fdy. Co., Rochester, N. Y.	
Hall-Neal Furnace Co.	9	Kimball Bros. Co.	Danville Stove & Mfg. Co., Danville, Pa.	
Hammond Heating Co.	7	Knoedler, Frederick J.	Haynes-Langenberg Mfg. Co., St. Louis, Mo.	
Harrington & King Perforating Co.	53	Lalance & Grosjean Mfg. Co.	Hall-Neal Furnace Co., Indianapolis, Ind.	
Hart & Cooley Co.	12	Lovell Mfg. Co.	Hammond Heating Co., Cincinnati, Ohio	
Haynes-Langenberg Mfg. Co.	2	Lufkin Rule Co.	Henry Furnace & Fdy. Co., Cleveland, Ohio	
Hemp & Co.	52	Magee Furnace Co., Inc.	Hess-Snyder Co., Massillon, Ohio	
Henry Furnace & Fdy. Co.	3	Mahoning Fdy. Co.	Magee Furnace Co., Boston, Mass.	
Hess-Snyder Co.	9	Majestic Co.	Mahoning Fdy. Co., Youngstown, Ohio	
Howes Co., The S. M.	10	Meyers Mfg. Co., Fred J.	Majestic Co., Huntington, Ind.	
Hussey & Co., C. G.	52	Michigan Safety Furnace Pipe Co.	Manny Heating Supply Co., Chicago, Ill.	
Independent Register & Mfg. Co.	12	Michigan Safety Furnace Pipe Co.	Meyer Furnace Co., Peoria, Ill.	
Inland Steel Co.	50	Miller Corrugating Co.	Monroe Fdy. & Furnace Co., Monroe, Mich.	
International Radiator Co.	49	Monroe Fdy. & Furnace Co.	Scheible-Moncrief Heater Co., Cleveland, Ohio	
Kimball Bros. Co.	49	Nat'l Stove Repair Co.	Schwab & Sons Co., R. J., Milwaukee, Wis.	
Knoedler, Frederick J.	52	Niagara Machine & Tool Works	Waterloo Register Co., Waterloo, Iowa	
Lalance & Grosjean Mfg. Co.	56	Nickel Plate Stove Polish Co.	Wise Furnace Co., Akron, Ohio	
Lovell Mfg. Co.	57	North Bros. Mfg. Co.	Wise Furnace Co., Waterloo, Iowa	
Lufkin Rule Co.	54	Northwestern Stove Repair Co.	Wise Furnace Co., Akron, Ohio	
Magee Furnace Co., Inc.	6	Peek, H. E.	Wise Furnace Co., Akron, Ohio	
Mahoning Fdy. Co.	5	Quick Meal Stove Co.	Wise Furnace Co., Akron, Ohio	
Majestic Co.	14	Quincy Pattern Co.	Wise Furnace Co., Akron, Ohio	
Manny Heating Supply Co.	9	Rock Island Mfg. Co.	Wise Furnace Co., Akron, Ohio	
Marsh Lumber Co.	12	Rose-Gould	Wise Furnace Co., Akron, Ohio	
Meyer Bro. Co., F.	11	Ryerson & Son, Joseph T.	Wise Furnace Co., Akron, Ohio	
Meyer Furnace Co.	4	Safety Interlocking Stove Pipe Co.	Wise Furnace Co., Akron, Ohio	
Meyers Mfg. Co., Fred J.	49	St. Louis Technical Institute	Wise Furnace Co., Akron, Ohio	
Michigan Safety Furnace Pipe Co.	10	Scheible-Moncrief Heater Co.	Wise Furnace Co., Akron, Ohio	
Miller Corrugating Co.	60	Standard Ventilator Co.	Wise Furnace Co., Akron, Ohio	
Monroe Fdy. & Furnace Co.	8	Stearns Register Co.	Wise Furnace Co., Akron, Ohio	
Nat'l Stove Repair Co.	13	Sullivan-Geiger Co.	Wise Furnace Co., Akron, Ohio	
Niagara Machine & Tool Works	52	Towne, F. A.	Wise Furnace Co., Akron, Ohio	
Nickel Plate Stove Polish Co.	13	Thomas & Armstrong Co.	Wise Furnace Co., Akron, Ohio	
North Bros. Mfg. Co.	57	Wendell Pattern Works.	Wise Furnace Co., Akron, Ohio	
Northwestern Stove Repair Co.	13	Waterloo Register Co.	Wise Furnace Co., Akron, Ohio	
Peek, H. E.	49	Whitney Mfg. Co., W. A.	Wise Furnace Co., Akron, Ohio	
Quick Meal Stove Co.	2	Wise Furnace Co.	Wise Furnace Co., Akron, Ohio	
Quincy Pattern Co.	13	Wise Furnace Co.	Wise Furnace Co., Akron, Ohio	
Rock Island Mfg. Co.	56	Cut-Offs—Rain Water.	Wise Furnace Co., Akron, Ohio	
Rose-Gould	49	Damppers—Hot Air.	Wise Furnace Co., Akron, Ohio	
Ryerson & Son, Joseph T.	51	Eaves Trough.	Wise Furnace Co., Akron, Ohio	
Safety Interlocking Stove Pipe Co.	10	Berger Bros. Co., Philadelphia, Pa.	Wise Furnace Co., Akron, Ohio	
St. Louis Technical Institute	49	Clark-Smith Hardware Co.	Wise Furnace Co., Akron, Ohio	
Scheible-Moncrief Heater Co.	8	Wise Furnace Co.	Wise Furnace Co., Akron, Ohio	
Schwab & Sons Co. R. J.	9	Wise Furnace Co.	Wise Furnace Co., Akron, Ohio	
Standard Ventilator Co.	52	Wise Furnace Co.	Wise Furnace Co., Akron, Ohio	
Stearns Register Co.	1	Wise Furnace Co.	Wise Furnace Co., Akron, Ohio	
Sullivan-Geiger Co.	13	Wise Furnace Co.	Wise Furnace Co., Akron, Ohio	
Towne, F. A.	49	Wise Furnace Co.	Wise Furnace Co., Akron, Ohio	
Thomas & Armstrong Co.	52	Wise Furnace Co.	Wise Furnace Co., Akron, Ohio	
Vedder Pattern Works.	13	Wise Furnace Co.	Wise Furnace Co., Akron, Ohio	
Waterloo Register Co.	9	Wise Furnace Co.	Wise Furnace Co., Akron, Ohio	
Whitney Mfg. Co., W. A.	52	Wise Furnace Co.	Wise Furnace Co., Akron, Ohio	
Wise Furnace Co.	7	Wise Furnace Co.	Wise Furnace Co., Akron, Ohio	
				Pipe—Conductor.
				Berger Bros. Co., Philadelphia, Pa.
				Clark-Smith Hdw. Co., Peoria, Ill.
				Friedley-Voshardt Co., Chicago, Ill.
				Hussey & Co., C. G., Pittsburgh, Pa.
				Milwaukee Corrugating Co., Milwaukee, Wis.
				Pipe and Fittings—Furnace.
				Henry-Miller Foundry Co., Cleveland, Ohio
				Meyer & Bro. Co., F., Peoria, Ill.
				Manny Heating Supply Co., Chicago, Ill.
				Michigan Safety Furnace Pipe Co., Detroit, Mich.
				Safety Interlocking Stove Pipe Co., Mt. Pleasant, Iowa
				Stearns Register Co., Detroit, Mich.

Pipe and Fittings—Stove.	Schools—Sheet Metal Pattern Drafting.	Stoves—Oil and Gasoline.	Ventilators.
Hemp & Co., St. Louis, Mo. Meyer & Bro. Co., F. Peoria, Ill.	St. Louis Technical Institute, St. Louis, Mo.	Quick Meal Stove Co., St. Louis, Mo.	Berger Bros. Co., Philadelphia, Pa. Friedley-Voshardt Co., Chicago, Ill.
Michigan Safety Furnace Pipe Co., Detroit, Mich.	Screens—Perforated Metal.	Stoves and Ranges.	Standard Ventilator Co., Lewisburg, Pa.
Safety Interlocking Stove Pipe Co., Mt. Pleasant, Iowa	Harrington & King Perforating Co., Chicago, Ill.	Co-operative Fdy. Co., Rochester, N. Y.	Thomas & Armstrong Mfg. Co., London, Ohio
Sullivan-Geiger Co., Indianapolis, Ind.		Danville Stove & Mfg. Co., Danville, Pa.	
Polish—Metal.	Screw Drivers.	Quick Meal Stove Co., St. Louis, Mo.	
Black Silk Stove Polish Co., Sterling, Ill.	North Bros. Mfg. Co., Philadelphia, Pa.		
Nickel Plate Stove Polish Co., Chicago, Ill.			
Polish—Stoves.	Sheets—Black and Galvanized.	Stove Pipe Reducer.	Ventilators—Ceiling.
Black Silk Stove Polish Co., Sterling, Ill.	American Sheet & Tin Plate Co., Pittsburgh, Pa.	Sullivan Gieger Co., Indianapolis, Ind.	Hart & Cooley Co., New Britain, Conn.
Nickel Plate Stove Polish Co., Chicago, Ill.	Brier Hill Steel Co., Youngstown, Ohio.		Henry Furnace & Fdy. Co., Cleveland, Ohio
Posts—Steel Fence.	Inland Steel Co., Chicago, Ill.	Stuffers—Sausage.	
American Steel & Wire Co., Chicago, Ill.	Knoedler, Frederick J., Philadelphia, Pa.	Enterprise Mfg. of Pa., Philadelphia, Pa.	
Presses—Lard	Sheets—Blue Annealed.	Tacks, Staples, Spikes.	
Enterprise Mfg. Co. of Pa., Philadelphia, Pa.	Brier Hill Steel Co., Youngstown, Ohio	American Steel & Wire Co., Chicago-New York	
Punches.	Sifters—Ash.	Tapes.	
Bertsch & Co., Cambridge City, Ind.	Diener Mfg. Co., G. W., Chicago, Ill.	Lufkin Rule Co., Saginaw, Mich.	
Niagara Machine & Tool Works, Buffalo, N. Y.	Sifters—Flour.	Tiles and Shingles—Metal.	
Whitney Mfg. Co., W. A., Rockford, Ill.	Meyers Mfg. Co., Fred J., Hamilton, Ohio	Cortright Metal Roofing Co., Philadelphia, Pa.	
Ranges—Combination Gas and Coal.	Smoke Pipe.	Milwaukee Corrugating Co., Milwaukee, Wis.	
Quick Meal Stove Co., St. Louis, Mo.	Manny Heating Supply Co., Chicago, Ill.	Thomas & Armstrong Mfg. Co., London, Ohio	
Registers—Warm Air.	Soldering Fluid.	Tin—Perforated.	
Hart & Cooley Co., New Britain, Conn.	Towner, F. A., Muskegon, Mich.	Harrington & King Perforating Co., Chicago, Ill.	
Henry Furnace & Fdy. Co., Cleveland, Ohio	Soldering Furnaces.	Tinplate.	
Independent Reg. & Mfg. Co., Cleveland, Ohio	Clayton & Lambert Mfg. Co., Detroit, Mich	American Sheet & Tin Plate Co., Pittsburgh, Pa.	
Majestic Co., Huntington, Ind.	Diener Mfg. Co., G. W., Chicago, Ill.	Knoedler, Frederick J., Philadelphia, Pa.	
Manny Heating Supply Co., Chicago, Ill.	Double Blast Mfg. Co., North Chicago, Ill.		
Marsh Lumber Co., Dover, Ohio	Quick Meal Stove Co., St. Louis, Mo.	Tools—Auto Repair.	
Rock Island Register Co., Rock Island, Ill.	Specialties—Hardware.	Curfman Mfg. Co., F. L., Maryville, Mo.	
Stearns Register Co., Detroit, Mich.	Bullard & Gormley, Chicago, Ill	International Radiator Co., Chicago, Ill.	
Waterloo Register Co., Waterloo, Iowa	Chatsworth Mfg. Co., Chatsworth, Ill.		
Register Shields.	Corbin Screw Corporation, New Britain, Conn	Tools—Carpenters'	
Hall-Neal Furnace Co., Indianapolis, Ind.	Diener Mfg. Co., G. W., Chicago, Ill.	Lufkin Rule Co., Saginaw, Mich	
Repairs—Furnace.	Enterprise Mfg. Co. of Pa., Philadelphia, Pa.	North Bros. Mfg. Co., Philadelphia, Pa.	
Central Stove & Furnace Repair Co., Chicago, Ill.	Lufkin Rule Co., Saginaw, Mich		
Nat'l Stove Repair Co., Miamisburg, Ohio	North Bros. Mfg. Co., Philadelphia, Pa.	Tools—Sheet Metal.	
Northwestern Stove Repair Co., Chicago, Ill.	Rock Island Mfg. Co., Rock Island, Ill.	Bertsch & Co., Cambridge City, Ind.	
Repairs—Stove.	Speedometers—Bicycle.	Dreis & Krump Mfg. Co., Chicago, Ill.	
Central Stove & Furnace Repair Co., Chicago, Ill.	Corbin Screw Corporation, New Britain, Conn	Niagara Machine & Tool Works, Buffalo, N. Y.	
Nat'l Stove Repair Co., Miamisburg, Ohio	Bullard & Gormley, Chicago, Ill.	Ryerson & Son, Jos. T., Chicago, Ill.	
Northwestern Stove Repair Co., Chicago, Ill.	Sporting Goods.	Whitney Mfg. Co., W. A., Rockford, Ill.	
Roasters	Fanner Mfg. Co., Cleveland, Ohio	Tools—Tinsmiths'	
Lalance & Grosjean Mfg. Co., Chicago, Ill.	Stars—Hard Iron Cleaning.	Bertsch & Co., Cambridge City, Ind.	
Rolls—Forming.	Fanner Mfg. Co., Cleveland, Ohio	Double Blast Mfg. Co., North Chicago, Ill.	
Bertsch & Co., Cambridge City, Ind.	Statuary.	Dreis & Krump Mfg. Co., Chicago, Ill.	
Niagara Machine & Tools Works, Buffalo, N. Y.	Friedley-Voshardt Co., Chicago, Ill.	Knoedler, Frederick J., Philadelphia, Pa.	
Roofing—Iron and Steel.	Geroek Bros. Mfg. Co., St. Louis, Mo.	Niagara Machine & Tool Works, Buffalo, N. Y.	
American Sheet & Tin Plate Co., Pittsburgh, Pa.	Ryerson & Son, Jos. T., Chicago, Ill.	Ryerson & Son, Jos. T., Chicago, Ill.	
Brier Hill Steel Co., Youngstown, Ohio	Stock Tanks.	Torches—Gasolene.	
Cortright Metal Roofing Co., Philadelphia, Pa.	Thomas & Armstrong Mfg. Co., London, Ohio	Clayton & Lambert Mfg. Co., Detroit, Mich	
Friedley-Voshardt Co., Chicago, Ill.	Ryerson & Son, Jos. T., Chicago, Ill.	Diener Mfg. Co., G. W., Chicago, Ill.	
Inland Steel Co., Chicago, Ill.	Stock Waterers.	Double Blast Mfg. Co., North Chicago, Ill.	
Milwaukee Corrugating Co., Milwaukee, Wis.	Rock Island Mfg. Co., Rock Island, Ill.	Quick Meal Stove Co., St. Louis, Mo.	
Rubbish Burners.	Stoves—Camp.	Transit Companies.	
Hart & Cooley Co., New Britain, Conn.	Quick Meal Stove Co., St. Louis, Mo.	Cleveland & Buffalo Transit Co., Cleveland, Ohio	
Rules.		Trimmings—Stove.	
Lufkin Rule Co., Saginaw, Mich.		Fanner Mfg. Co., Cleveland, Ohio	

ADVERTISING is today the mightiest factor in the business world. It is an evolution of modern industrial competition. It is a business builder, with a potency that goes beyond human desire. It is something more than a "drummer" knocking at the door of the consumer — something more than mere salesmanship-on-paper. It is a positive, creative force in business. It builds factories, skyscrapers and railroads. It makes two blades of grass grow in the business world where only one grew before. It multiplies human wants and intensifies human desires. It furnishes excuse to timorous and hesitating ones for possessing the things which under former conditions they could easily get along without.

Better begin to advertise at once. Every day of waiting is a day wasted.

WANTS AND SALES

For paid yearly subscribers, AMERICAN ARTISAN AND HARDWARE RECORD will insert under this head advertisements of not more than fifty words WITHOUT CHARGE. Employers wishing to secure employees, parties desiring to purchase or sell business, secure partners, or to exchange, etc., will find that these pages offer excellent opportunities to satisfy their wants. Clerks and tinsmiths looking for situations will find it to their advantage to use these columns. Those who respond to these announcements please mention that they "READ THE ADVERTISEMENT IN AMERICAN ARTISAN AND HARDWARE RECORD."

BUSINESS CHANCES

For Sale—One new 50 light pilot Acetylene Generator. Never been used. Price \$65.00. John Bauer, Plattsburgh, New York. 13-3t

Wanted—A practical plumber or tinner with about \$3,000 to take an interest in an old established business. A good opening for the right man. Address Lock Box 31, Waterford, Ohio. 14-3t

For Sale—A sheet metal and plumbing shop, located in one of the best towns in Michigan. Doing good business. Lots of work on hand. Reason for selling, old age. Address M. Talmage, Scottville, Michigan. 14-3t

FOR SALE—Oster adjustable die stock, number six, cuts from $\frac{1}{2}$ inch to 4 inch pipe in good condition. Price, \$35.00. Address L. O. Ketchum, Box 65, Milford, New York. 13-3t

For Sale—at a bargain, a No. 540 Myers Furnace. Wholesale price new \$400. Used one winter. Store building was burned down and never rebuilt. Furnace in good condition. Price \$125.00. A. E. Browder, Albion, Nebraska. 14-4t

For Sale—Complete equipment of tin shop consisting of machinery, tools of all descriptions, benches, stakes, iron racks, etc. We are going to discontinue our shop. Can be had at a bargain. Wahler Brothers, 2553 North Halsted Street, Chicago, Illinois. 13-3t

For Sale—Hardware and paint store. Established 26 years. A-1 location. Last year's sales \$21,000. Stock, fixtures and tools worth \$9,500. Rent with seven room flat \$50.00 per month. Reason for selling, going to Europe. Price, \$7,750. August Sietz, 2567 Fullerton Avenue, Chicago, Illinois. 14-3t

For Sale—Plumbing and heating shop in small town in southeastern Nebraska. Fine territory to draw from. Reason for selling, am going west. Well equipped and priced at \$550.00. Fine chance for combination tinner and plumber. No other shop. D. G. Hull, Verdon, Nebraska. 12-3t

Wanted to Exchange—Farm of eighty acres, in Cumberland County, Illinois. Clear. For stock of hardware from five to seven thousand. Also three hundred acre farm in Jefferson County. It is well improved and practically all cultivated. Near towns on L and N. R. R. Good opportunity for the right man. Address John W. Akins, Effingham, Illinois. 14-3t

HELP WANTED

Wanted—Tinner to do general run of job work. \$9 per day. Address M. S. Warren, 555 Fifth Street, Port Arthur, Texas. 15-3t

Wanted—Two or three first class sheet metal workers. Either men who have had experience on cornice, skylight or ventilating work. No dubs wanted, but men who can do as much as the other fellow. Two to three months' steady work. Write or wire before coming. Foster Metal Products Company, 217 South 4th Street, Springfield, Illinois. 14-3t

HELP WANTED

Wanted—Hardware Clerk. Wood Hardware Company, Janesville, Wisconsin. 13-3t

Wanted—A first-class tinner and furnace man. A. C. Vieth and Sons, Oakland, Iowa. 13-2t

Wanted—Tinner; for steady job; come at once. Address all replies to S. J. Pelz, Clinton, Wisconsin. 15-3t

Wanted—Good all around tinner and furnace man. Steady job to right man. \$1.00 per hour. Address J. H. Barnett, Dodge City, Kansas. 13-3t

Wanted—Tinner. Could use young man with some experience in shop and outside work. Address T. B. Shannon Company, Iola, Kansas. 13-3t

Wanted—Four tanners and furnace man. One dollar per hour. Benton Sheet Metal and Furnace Works, 122 Water Street, Benton Harbor, Michigan. 14-3t

Wanted—A first-class sheet metal worker for general job work. \$1.00 per hour. Union shop. John B. Wallig, 307 Church Street, Kenosha, Wisconsin. 13-3t

Wanted—First-class sheet metal workers. Steady employment. \$8.00 per eight hour day. Open shop. W. J. Corbett Hardware Company, Tucson, Arizona. 13-3t

Wanted—A-1 auto radiator repair man. Steady job if you are the right one. Married man and a Catholic preferred. James T. Weaver, 315 Center Street, Little Rock, Arkansas. 12-4t

Wanted—A good combination tinner and plumber. Good wages and steady job for the right man. State experience and wages wanted in first letter. Winter Brothers, Troy, Kansas. 14-3t

Wanted—Sheet metal workers on automobile bodies. Eight-hour day and good pay. Must be an average mechanic. Bakers Auto Body Works, 1302 Fostoria Street, Tulsa, Oklahoma. 14-3t

Wanted—First-class furnace men, capable of handling any kind of installation. Steady work. G. E. Blockie Heating Company, 122 West First Street, Oklahoma City, Oklahoma. 14-3t

Wanted—Two first-class sheet metal workers, two first-class pre-war sheet metal workers. \$1.25 per hour. Wire when you can come. H. H. Bain Sheet Metal Works, Shreveport, Louisiana. 13-3t

Wanted—at once, one first-class tinner and furnace man; steady work; open shop; state wages wanted in first letter. Address Mr. George W. Howell, 310 West 3rd Street, Greensburg, Pennsylvania. 15-3t

Wanted at Once—An A-1 combination tinner, furnace, plumber and fitter. Married man preferred. Come at once. Will give the right man steady work the year round at 75c per hour. A. L. Spradling, Hoopeston, Illinois. 13-3t

Wanted—Experienced plumber and furnace man. Must be of good clean habits and capable to take care of shop. Steady work the year around. Will be ready for work about October 15th. State wages, etc., in first letter. Rickle's Hardware, Monticello, Iowa. 12-3t

SITUATION WANTED

Situation Wanted—By middle-aged man. Am thoroughly familiar with the heating business in all its branches; also efficient in the plumbing line. Can do estimating and selling. Address B-39, care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago, Illinois. 14-3t

Situation Wanted—By plumber with state license. Can also do any kind of warm air heating and estimate jobs. Will erect windmills and do pump work if necessary. Have had sixteen years' experience. Kindly address B-38, care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago, Illinois. 14-3t

Situation Wanted—By first-class sheet metal worker. Have had ten years' experience in some of the largest heating and ventilating shops in the country. Can lay out patterns, make estimates and capable of taking charge of shop. Have also had plumbing experience. Address B-36, care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago, Illinois. 14-3t

SITUATION WANTED

Situation Wanted—By first-class all around tinner and furnace man with a good reliable firm. Steady employment. Am married. Must be in town of from two to ten thousand. State wages in first letter. Address Henry Bailey, 35-57-11 Street, Rock Island, Illinois. 15-3t

Situation Wanted—By good reliable tinner and furnace man. Can also do plumbing and lead work. Am a first class worker. Must be steady job at \$42.00 per week. Please address B-37, care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago, Illinois. 14-3t

Situation Wanted—By experienced hardware clerk and salesman. Have had eight years' experience. Am thirty years old, married, and capable of taking entire charge of store. Address B-40, care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago, Illinois. 15-3t

Situation Wanted—By first-class sheet metal worker and pattern cutter with 14 years' experience. Am 32 years old. Have had experience in cornice skylight, furnace, mill elevator work and manufacturing. Can read blue prints and lay out work from same. Am strictly sober, reliable and a competent workman. Am a union man. Will consider nothing less than \$1.00 an hour and steady inside work. Would like to get a position with a large firm where there is a chance for advancement. Please address B-31, care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago, Illinois. 12-4t

TINNERS' TOOLS

For Sale—New Niagara large burring machine, \$15.00. George C. Crouch, 25 Market Square, Chattanooga, Tennessee. 14-3t

Wanted—To buy eight foot square shears, foot power. Must be in good condition. Kindly address B-35, care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago, Illinois. 13-3t

Wanted—A complete set of timmers' tools. State what you have and price in first letter. Address B-34, care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago, Illinois. 13-3t

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